The RUBBER AGE

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TIRE SALES IMPROVE FOLLOWING PRICE CUT

New List Has Produced No Radical Change in Demand but Shipments Are Slowly Increasing—Additional Price Protection Offered Dealers—Figures for May.

Although no great boom in tire sales has followed the price reductions of early July as was expected by some companies, there has been a gradual improvement. Reports throughout the industry, particularly in the Akron district, refer to larger shipments to dealers. In some cases the daily tire production schedules have been slowly advanced in spite of the fact that the demand has not been sufficiently stimulated to wipe out the excess inventories.

The Ford change-over to balloons for standard equipment led to a larger demand for 29x4.40 than had been anticipated, and the ticket on that size was increased in several plants as their stocks of it were rapidly cut down.

Manufacturers state that tire dealers are still prone to order in small quantities. As is the case on every falling market, many dealers expect another reduction in prices to follow the two that have already been made so far in 1926. While such a further price cut is plainly out of the question with June's crude rubber imports valued at 62 cents per pound, dealers prefer to take no chances. In order to overcome this obstacle, several manufacturers accompanied their new price lists with the announcement that they would extend the usual period of price protection so that unsold stock in dealers' hands would be covered until October 1.

On a basis of 100%, the Rubber Association's figures for May show that at the end of that month the inventory of casings was 117,720 less than at the end of April which was the result of increased shipments and a decrease in production of over 320,000 casings. The stocks of casings on hand at the end of May were still about 3,181,000 in excess of what they were a year ago. The inventory of inner tubes, on the 100% basis, was 21,140,496, an increase of nearly half a million over the preceding month, and about 8,639,000 over May, 1925.

Nobile Visits Akron

Major-General Umberto Nobile, designer and pilot of the airship Norge which recently flew over the North Pole, visited Akron on July 12 and was acclaimed by thousands of the city's inhabitants, many of whom he had met when he previously spent three months there assisting Goodyear engineers in designing dirigibles. The explorer was the guest of P. W. Litchfield, president of the Goodyear Tire and Rubber Company, and renewed his acquaintanceship with many Akron men interested in aircraft development. On his Akron visit, as on the historic flight over the Pole, General Nobile was accompanied by his terrier, Titina, which is shown with him in the above picture.

Durango Rubber

The incorporation of a company composed of American, French, and Mexican Capital for the development of the rubber and turpentine industries in Durango, Mexico, has been recently announced. The company will operate under a special government concession.

RUBBER RESTRICTION AVERAGE IN BALANCE

Average Price Barely Above Required Figure as End of Quarter Draws Near and Outcome is Entirely Uncertain—Action by London Operators Suspected.

With only eleven market days of the current rubber restriction quarter remaining, the average London closing price of ribbed smoked sheet has settled down to 12.121 pence. If an average price of 21 pence is not maintained for the entire quarter, which ends at the close of business on July 31, British Malaya and Ceylon will be permitted to export but 80% of their standard production during August, September and October.

Since with the quarter so nearly gone, the average price stands at less than one-eighth pence beyond the required figure, no one can say what the outcome will be. The daily official closing price has continued to stand at around 20¼ pence, on some days gaining an eighth and at one time dropping to 20 pence. If a price of 20¼ pence is maintained for the remainder of the quarter, the average will be slightly over the required figure and rubber planters in Malaya and Ceylon will continue to get export coupons for their entire standard production.

The closeness of the average price to the required price has been attributed in many quarters to the effort of London traders to force the figure down until the export allowance would be cut, their idea being that a higher and more fluctuating market would result in the future. It has been thought that both growers and speculators have taken part in such a movement but definite proof is lacking.

The tense situation has stimulated H. S. Firestone to break a silence of several months with a statement in which he suggests that powerful interests controlling the crude rubber stocks in London will see to it that the average price falls just below instead of just over the required 21 pence. The change made last May in the pivotal price of the rubber restriction scheme fixes an additional charge of $136,000,000 on American motor transportation, in his opinion.

Carmi Thompson Giving Chief Attention to Philippine Rubber

President's Emissary and Governor General Wood Bring Into Question of Rubber Development Into Foreground—Both Urge Legislature to Encourage Investments in Islands.

Contrary to announcements made before his departure from this country, the possibility of getting more favorable conditions for the establishment of a rubber plantation industry in the Philippines has almost monopolized the attention of Colonel Carmi Thompson since he arrived in the islands as the emissary of President Coolidge. If he still adheres to his original statement that his mission is to suggest a solution for the entire Philippine problem, both political and economic, then he must be convinced that giving rubber the right of way is of the first importance.

Col. Wood's Interest Renewed

Furthermore, Colonel Thompson's interest in rubber has renewed that of Governor General Wood. In his annual message, read before a joint session of the Philippine legislature at its opening on July 16, General Wood recommended legislation to encourage outside capital and to develop natural resources, especially rubber. Part of his statement was as follows:

"Within the limits of the archipelago very large areas are in every way adapted for rubber production. These are now covered by forests, jungles and cogon grass, giving small or no returns. I believe if the industry is developed and well handled the Philippines can produce enough rubber to fully supply their own demands and those of the United States.

"I am confident that Filipino laborers, if well treated and reasonably well paid, can be secured in sufficient numbers to work the plantations successfully and push the development of the industry. Once the details of producing rubber are understood, Filipino planters will be as successful in growing rubber as they are in growing copra, hemp and sugar. I recommend that legislation be enacted to permit and encourage the growing of rubber on a large scale."

At the same session of the legislature, Colonel Thompson urged the development of rubber plantations as the first step in a new program of economic progress.

"I hope you gentlemen in your wisdom will find a way to open primarily for the benefit of your people the public lands in the rubber section", he said. "The eyes of the world are upon you. You are marked for the next great advance. You require capital, but before the invitation to capital you should pass such laws as will preserve the rights of the people as well as safeguard the rights of those who are willing to support progress financially. I am here to get the facts and will make recommendations which I trust will promote a better understanding between the Americans and the Filipinos."

In a reply to the address of the two officials, Manuel Quezon, president of the Senate, who with Speaker Roxas of the House holds the power to pass whatever legislation he approves, said that the Filipinos were prepared to do their utmost to aid the United States in solving the problems which confront them. This statement was taken to mean that he would favor legislation that would help to create a new source of rubber in contrast to the present centralization of the supply in British and Dutch colonies. Colonel Thompson is reported to have established cordial relations with both Quezon and Roxas and chances for a liberalization of the land laws now throttling the rubber development are believed to be better than they were before he arrived.

According to dispatches cabled to the United States by correspondents accompanying Colonel Thompson's party, persons close to Quezon have given their opinion that the Filipino politicians will favor opening the rubber lands to American capital if they are assured of retaining political control.

It is said that consideration is being given to a plan to devote a million acres to rubber culture, including 100,000 acres which would be sold or leased to an American corporation for a "central". The Americans would grow rubber on the central plantations just as is now done on large plantations in Malaya and would have factory facilities for handling its own production as well as that of the hundreds of small planters who would be encouraged to take up adjoining land.

Rubber Development Depends on Stability

Colonel Thompson told the leaders that American rubber men would assent to such a plan if convinced of political stability over a period of years including harmonius relations between the Governor General and the legislature. He said he favored a thousand small farmers raising rubber and other products to exploitation by a few large corporations.

Other parties feel that the Filipinos are quite unlikely to change their attitude toward large American developments, and that if bills are introduced for the liberalization of the land laws, they will include impossible conditions such as a guarantee of independence at a certain date, or greater autonomy at once. Such bartering has, of course, no possibility of approval by American authorities.

The idea of separating the southern islands, which contain the best rubber lands, from the Manila government has not been forgotten although Colonel Thompson has refrained from mentioning it. Reports have reached Manila that the Moros of Mindanao have prepared a petition to Colonel Thompson seeking his support of the Bacon bill which was introduced before the last session of the American Congress.

CONVERSE EARNINGS UP DURING FIRST QUARTER

If the remaining three quarters of its fiscal year produce sales and earnings in comparison with the first quarter which ended June 30, the Converse Rubber Shoe Co., Malden, Mass., will enjoy the biggest twelve months of its history. April results, covering the first month of the company's fiscal year, showed net after taxes and preferred dividend requirements of $23,949, while May profits were $33,155. June figures indicate net of $25,000 for the month, giving a total for the first quarter of roughly $82,000. This is equal to $31.40 per share on the 2611 no-par common shares publicly held.

The Converse common stock is now receiving dividends at the rate of $4 per share annually. Converse preferred stock to the extent of $2,774,200 is also publicly owned. In addition there are outstanding 3100 no-par general capital or management shares, but this stock does not participate in profits until after $4 per share has been paid on the common. After $7 per share on the management stock the common and management stock may share in further distributions.

Globe Plant Sold

The plant of the Globe Tire & Rubber Company at Trenton, New Jersey, has been purchased by Ralph Hulse, of that city, at public auction for a consideration of $15,100. The sale, which was the result of action brought against the company to satisfy the claims of the Mechanics National Bank of Trenton, has not yet received the necessary court confirmation. The plant adjoins that of the United and Globe Rubber Company.

McKinley Almost Ready

The McKinley Rubber Company, which has taken over the plant of the Sebring Tire and Rubber Company at Salem, Ohio, will begin operations at an early date. Modern machinery is being installed and the plant will have a production of 1,000 tires a day, according to officials of the company. The 20,000 square feet of floor space in the factory is expected to be sufficient to meet the demands of the new company for some time to come. C. O. Tice is factory manager.

Badger Accessories

The Badger Rubber Works of Milwaukee, Wisconsin, is marketing an attractive line of fan belts, radiator hose, Ford hose connections, tire flaps and flexible disc joints in addition to Badger tires, tubes and repair materials.

FINANCIAL Items about Rubber and Motor Companies

GOODYEAR'S DIVIDEND PLAN NOT YET READY

Litchfield Issues Statement Dealing With Agitation of Stockholders for Back Dividends on Preferred Stock and Rumor That Bonds Would be Refunded.

President P. W. Litchfield of the Goodyear Tire & Rubber Company of Akron has issued the following statement dealing with the proposed payment of back dividends on preferred stock and the refunding of the present bonds and debentures:

"Attention has been drawn to a printed communication recently sent to certain stockholders of the Goodyear Tire & Rubber Company by five individuals signing themselves as 'protective committee of the preferred stockholders' urging that the company pay back dividends on its preferred stock by the issuance of additional preferred stock.

"The management has had under active consideration for some time the problem of meeting the back dividend claims of preferred stockholders and is anxious that some action be taken as soon as a practical solution is found.

"It has received constructive suggestions from stockholders representative of the different classes; and the proposal that payment of back dividends be made in preferred stock is but one of a number of suggestions which have been under consideration.

"No conclusion has yet been reached as to the desirability of refunding the company's senior securities, with consequent readjustment of interest rates and sinking fund requirements. This problem has an important bearing on the dividend position of both the preferred stock and the common stock.

"A refunding operation will not be undertaken unless it is clearly in the interest of the stockholders of the company as a whole, nor unless approved by the stockholders after due consideration, ample opportunity for which will be afforded."

The letter of the protective committee, referred to by Mr. Litchfield, was sent to preferred stockholders who did not assent to the original refinancing plant of the company. It urges that a concerted effort be made to obtain the back dividends on the preferred stock, said to amount to 29¾ per cent on April 1 of this year, and recommends that the back dividends should be paid in preferred stock now held in the treasury of the company.

The proposed refunding of Goodyear's 8 per cent bonds and notes is based on the belief that a ready supply of funds should now be available at 6 or 6½ per cent.

Goodyear now has outstanding an issue of $22,500,000 of 8 per cent first mortgage bonds due in 1941 and an issue of $18,226,800 debenture gold notes due in 1931 on which the company also has to pay 8 per cent per annum. The bonds are callable at 120 and interest on any interest date. As to the notes, a sinking fund provides that 5 per cent of the authorized amount, or 25 per cent of net earnings after dividends on prior preference stock, which ever is greater, shall be applied to the purchase of notes at not exceeding 110 and interest.

The company would have to pay a premium of approximately $4,500,000 in order to retire the bonds at their callable price of 120 and accrued interest. The premium on the notes would amount to about $1,800,000. Total premium on both issues, therefore, would be around $6,300,000.

If the company decides to refund these securities with new bonds and notes bearing a 6 per cent interest rate, the saving of 2 per cent would result in a cut of approximately $800,000 in its annual interest charges. The saving on a 6½ per cent basis would be about $600,000 annually. In addition, the interest charges would decrease each year, resulting in substantially larger savings than the above figures. The savings on interest alone, however, from now until maturity of the securities, would more than offset the premium which the company would have to pay to call the present bonds and notes.

Through being able to finance on a lower basis, the company would improve its financial and credit position to a large extent.

U.S. Preferred Dividend

United States Rubber preferred stockholders will be paid the regular quarterly dividends of 2 per cent on August 5.

Motor Company Reports

The largest volume of business the company has ever experienced in a half-yearly period was enjoyed by the Hupp Motor Car Co. in the first six months of this year, according to officials of the company. Shipments totaled 26,943 cars, and exceeded those for the first half of last year by 40 per cent, and were 54 per cent ahead of the same period of 1924.

* * *

Shipments of the Pierce-Arrow Motor Co. for the month of June were very large and brought the total deliveries for the first six months of 1926 to levels approximately 25 per cent in excess of those for the same period of last year. Shipments on the series 80 passenger car line for June were nearly 50 per cent above the same month a year ago, which was the previous record month.

* * *

Deliveries of the Buick Motor Co. in June totaled 21,401 cars, bringing total deliveries for the first six months of this year to 131,427. Deliveries for the first 11 months of the fiscal year ended July 1 amounted to 226,583 cars, or 41.5%, over the best previous record.

* * *

For the three months ended May 31, 1926, Nash Motors reported net income after all charges and taxes of $6,010,824, or $2.20 a share on the 2,730,000 shares of no par common stock out-standing. This compared with $4,137,508, or $1.46 a share, earned in the preceding quarter, and brings the total net earnings for the first half of the current fiscal year to more than $10,000,000, or $3.65 a share on the common stock. For the same period last year, $2.50 per share was earned.

Return Home From Trip to Europe and Far East

Photo by Underwood & Underwood

Harvey S. Firestone, Jr., with Mrs. Firestone, has returned to the United States from a round-the-world trip of investigation of Firestone Tire and Rubber Company interests in several countries. Together with a party which included M. A. Cheek, former manager of the company's office and rubber washing plant at Singapore, they sailed from Seattle last January. The Philippine Islands and the rubber countries of the Middle East were visited.

Although Liberia was not on the itinerary, Mr. Firestone issued immediately upon his return a denial of the rumor that work on the company's plantation in that country was not proceeding satisfactorily. "There were some minor difficulties in getting things started", he explained, "but these have been straightened out and our original program is being followed."

With reference to the possibilities for rubber growing in the Philippines which Mr. Firestone investigated in detail, he merely restated his belief that with favorable political and economic conditions, a satisfactory development could be expected.

RUBBER INVESTIGATORS RETURN FROM TROPICS

O. F. Cook, rubber and cotton specialist in the Bureau of Plant Industry, Department of Agriculture, has returned to the United States with other members of the Bureau's staff after a three months' exploration trip in the West Indies and South America. Rubber experimental stations being maintained by the Department of Agriculture in Haiti and in the Canal Zone were visited. The scientists report that "results of tapping experiments conducted on 20-year old Hevea trees now growing near the north coast of Haiti indicate that it is not impossible to produce rubber from this tree in suitable locations in the West Indies, Central America and Mexico".

Hevea seed taken from Haiti to the Canal Zone are reported to have produced healthy seedlings which are now being transplanted.

Mr. Cook and his party also made a short expedition to the west coast of South America, and into Colombia and Ecuador as far south as Guayaquil to where they traced the Castilla rubber tree.

To Make Rubber Flooring

A corporation to be known as the National Marbelized Rubber Flooring Company, Philadelphia, has been recently granted a charter. The company is capitalized at $100,000.

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RECORD SALES SEND GENERAL MOTORS UP

Stock Ascends to New High as Earnings on Common Stock Reach $17.00 for Half Year; Production in All Branches Up and Expansions Being Arranged For.

Record breaking sales and profits in spite of increasingly keen competition, and the possibility that a stock dividend of at least 25 per cent may be declared in the near future are believed to be the outstanding factors which have encouraged the recent heavy buying in General Motors, sending the stock to new high levels. The shares have risen from a low of 113¼ since the beginning of the year to a record high of 161¾. The present price is holding around 159.

Based on the average profit per car, it is estimated that General Motors' net earnings for the second quarter of the present year should approximate $49,000,000. This would mean about $9.50 a share on the common stock for the three months ended June 30, or around $17.00 per share for the first half of 1926 as compared with $9.02 per share in the same period of last year.

The corporation is steadily enhancing its manufacturing activities and marketing organization. Within the past few days announcement has been made of the purchase by General Motors of the Flint Motor Co.'s plant at Detroit.

Alfred P. Sloan, Jr., president of the company, in a letter to stockholders, states that about $40,000,000 will be spent on plants and equipment. There has already been authorized an expenditure of approximately $8,000,000 to provide additional capacity for the Chevrolet motor division. Five million dollars more will be spent by the Oakland motor car division for creating additional capacity for production of the Pontiac, General Motor's latest passenger car addition.

"The outlook for General Motors at the present time is satisfactory," said Mr. Sloan. "A new record of retail sales was established for the month of March. April exceeded March and sales in May for the third consecutive month exceeded any previous month in the corporation's history and totaled 141,651 cars."

Eagle-Picher Not Sold

Negotiations for the purchase of the plants and mining properties of the Eagle-Picher Lead Company, which numbers rubber colors among its many products, by the American Smelting and Refining Company have been dropped and it is not expected that they will be resumed. At one time it was regarded as certain that the deal would be consummated.

CATALPO!

AGREEMENT SOUGHT ON NEW GOLF BALL SIZE

United States Golf Association Committee Unanimous in Recommending Bigger and Lighter Ball But Change will Await Approval of St. Andrews; The Manufacturers' Viewpoint.

An official report has just been issued of a meeting between the delegates of the United States Golf Association and the Golf Balls Sub-Committee of the Rules of Golf Committee appointed by the Royal and Ancient Golf Club of St. Andrews (the leading British golf body), which was held at Muirfield on May 28, 1926.

The Executive Committee of the U.S.G.A. were unanimous in recommending that the minimum diameter of golf balls should be raised to 1.68 inches, and the maximum weight reduced to 1.55 ounces. But, in reply to a question put, the chairman said that the U.S.G.A. would not adopt these specifications at the present time unless they were approved and adopted by the Royal and Ancient Golf Club.

All present at the meeting were unanimous in holding that, whatever action be taken, it is most desirable that it be identical and simultaneous in both countries.

Complete unanimity was also attained on the following points: (1) That it would be a mistake to take any step which would diminish the pressure obtainable from the hitting of the ball, though it is eminently desirable that its power should be diminished; (2) That the interests of manufacturers and retailers of balls, espeically the professional golfers, must be considered and safeguarded so far as is possible; (3) That the ideal to be kept in view is the betterment of the game for players of all classes not for competitors in championships only.

Simultaneous action is, of course, greatly desired by the British manufacturing interests (such as the Dunlop Rubber Co.), which control the greater proportion of the world's golf ball trade, for were America to adopt the new type of ball before Britain it would be necessary for the British manufacturers to install new machinery especially to manufacture balls for the American export trade. The manufacturers naturally do not wish to adopt the new machinery until a complete change-over to the new ball is made in all their markets. To be forced to manufacture two types of ball at the same time would considerably increase their production costs.

MOYER JOINS GOODYEAR SUNDRIES DEPARTMENT

Lieut. Max F. Moyer, Air Service, for the past four years Akron district manager of balloon inspection for the United States Army, has resigned his commission and accepted a position in the sundries department of the Goodyear Tire and Rubber Company.

Lieut. Moyer is well known in the lighter-than-air branch of the Air Service. He participated in the 1923 national balloon race at Indianapolis, was operations officer for the army balloon team in the national and international races of 1924 and piloted the army balloons in the 1925 Major Thomas S. Baldwin and Detroit races.

Major Norman W. Peek is now in charge of the army office at Akron.

Will Visit Philippines

Due to a change in plans, D.M. Figart will not return directly to the United States from his European trip but is proceeding to the Philippine Islands where he will join Edgar B. Davis on a tour of investigation.

THREE CITIES COMPETE WITH AKRON FOR RACE

Members of the committee working to bring the 1927 Gordon Bennett International Balloon Race to Akron are confident of success, although three other cities are also contesting for the honor. Oklahoma City, Oklahoma; Moline, Illinois; and St. Joseph, Missouri, have also filed applications with the Contest Board of the National Aeronautic Association. Final selection of the city where the race will be held will probably not be made for several months.

According to W. C. Young, chairman of the Akron committee, the greatest objection to Akron is that of geographical position.

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GOODRICH EARNS LESS; INVENTORY VALUES OFF

According to preliminary estimates, earnings of the B. F. Goodrich Company are expected to show a decided decline for the first half of 1926. The change is said to be due principally to inventory losses on crude rubber necessarily purchased on forward contracts at prices considerably above those now ruling. Earnings for the first six months are said to no more than cover preferred dividends requirements which amount to $1,311,520. During the same period last year the company enjoyed a net income of more than $7,000,000 after depreciation, interest and Federal taxes were cared for.

As he departed for a business trip to Europe, B. G. Work, chairman of the Goodrich board, said that inventories of the company at this time last year were around $40,000,000 while this year they were neither so excessive nor so large.

"The middle of the year does not represent a true picture of the rubber business", said Mr. Work. "All rubber companies, in my opinion, are over the worst part of their year and the last half should be considerably better than the first half. Goodrich plants are running on a normal schedule and I expect this to continue for some time. I don't look for additional price cuts".

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1926 RIM PRODUCTION RUNNING BELOW 1925

Total Rims Produced in June of This Year And in First Six Months Slightly Below 1925—Clincher 30 x 3½ Continues to Lose to 28 x 3½ Balloon.

According to figures just released by the Tire & Rim Association of America, total rim production for June was 2,110,033 as compared with 2,124,300 for June, 1925. The total for the first six months of this year was 13,195,577 and for the corresponding period of 1925 was 13,523,994.

The figures reveal that rims for 30 x 3½ clincher tires showed a decided drop since last year when 18.3% of the total, or 388,810, consisted of rims of this size whereas only 7.8%, or 165,069, of the June, 1926, production was in this size.

The largest production was in the 28 x 3½ size, of which 921,237, or 43.2% of the total, were made in June of this year, as against only 743,829, or 35%, during the corresponding month of 1925.

Poduction of some of the leading sizes follow:

			JUNE 1926	*Per Cent*	*JUNE 1925*	*Per Cent*
30x3½	Clincher	.....	165,069	7.8	388,810	18.3
20x3½	Balloon	.....	30,137	1.4	—	—
28x3½	"	.....	921,237	43.2	743,829	35.0
28x4	"	.....	298,531	14.1	199,427	9.3
29x4	"	.....	295,374	14.0	159,231	7.5
29x4½	"	.....	42,927	2.3	16,703	0.8
30x4½	"	.....	88,650	4.2	136,598	6.4
30x5	"	.....	12,992	0.6	43,111	2.1
31x5	"	.....	42,716	2.3	57,363	2.7
32x4	High Pressure	.	3,357	0.2	23,467	1.1
32x4½	" "	.	47,586	2.3	56,717	2.7
30x5	Truck	.....	87,673	4.2	64,459	3.1
32x6	"	.....	11,681	0.5	6,549	0.3

To Have Nine Directors

At a meeting held in New York on July 11, the Rubber Exchange Clearing House amended its constitution to provide for a board of directors of nine members instead of five as originally provided for. Although the change has been approved, the additional members have not yet been elected but according to Mr. Carter, the Secretary of the Clearing House, it is expected that they will be named late this month.

Rubber Plants Shut Down

The plant of the Woonsocket Rubber Company at Woonsocket, R. I., and its branch factory at Millville, Mass., subsidiaries of the United States Rubber Company, closed on July 15th for three weeks. Operations are expected to be resumed about August 9th. Over 1,600 employees are affected by the shutdown. Officials of the company cite the slack business and need for usual summer repairs as the reason for closing.

CATALPO!

TWO TOWNS SEEK PLANT NOW CLOSED BY STRIKE

The action of the Firestone-Apsley Rubber Company of Hudson, Mass., in closing its plant indefinitely following the recent strike of its employees and suspending work on the $500,000 addition which is in the process of construction, has been interpreted by many to mean that the company might move its Hudson plant to some other city. Nearby Massachusetts towns have accordingly made offers of sites to the company.

The Chamber of Commerce of Clinton, Mass., has launched a plan to persuade the company to locate its factory at Clinton, in the belief that it would aid in relieving the unemployment problem of the local textile mills during the periods of depression. A number of residents of Clinton are already employees of the Firestone-Apsley Company, commuting to Hudson.

The Chamber of Commerce of Worcester, Mass., has also negotiated with officials of the Firestone Company in an effort to induce them to locate their factory in that city.

The striking employees of the Firestone-Apsley Company were expected to return to their work at the Hudson plant sometime during the week of July 18 according to a decision of a large percentage of the gaiter makers who precipitated the strike. It is understood that they will accept the 62 cents per hour wage offered by the company with the agreement that a higher figure may be paid after the company has determined the definite cost of manufacturing a new shoe which is now in the experimental stage. The return of the gaiter makers is expected to bring all 1,600 strikers back to their jobs.

Mason Production High

The production facilities of the Mason Tire and Rubber Company of Kent, Ohio are being used to the limit of their capacity for the first time in its history, according to officials of the company. They state that the increased activity is largely due to the fact that the retail outlets of the company has been doubled in the past eight months and that sizeable original car equipments contracts have been acquired. The textile and tire plants at Kent and the tire plant at Bedford are running three full shifts a day.

New Collapsible Life Saving Boat

Photo International News Reel

Illustration shows a new life saving boat, made collapsible with air-cells covered with heavy waterproofed material. It is 18 feet long and will easily carry 30 people. German engineers and Foreign Military Attaches are shown testing the new boat.

Mohawk Branch Manager

John G. Flynn has been appointed manager of the Denver branch of the Mohawk Tire and Rubber Company. The territory served by the Denver warehouse includes Colorado, southern Wyoming and northern New Mexico. Mr. Flynn was formerly salesman for the Mohawk Company in the Los Angeles district.

Canadian Tire Prices Cut

The prices of automobile tires and tubes in Canada have been reduced from 7 to 20 per cent in line with the recent reduction in tire prices in the United States. Prices, however, are still somewhat higher than they were a year ago. In addition to a cut in prices, some of the larger companies are giving a 90-day guarantee on tires and tubes for small cars.

SHOE COMPANY CLOSES COLLEGE POINT PLANT

The Beacon Falls Rubber Shoe Company has elesod its plant at College Point, L.I., and will transfer the production of that factory to the main plant at Beacon Falls, Massachusetts. The College Point factory was opened during the war for the manufacture of canvas rubber soled footwear as the entire Beacon Falls plant was utilized for the production of rubber boots and rubber footwear for the government. The concentration of production in the Beacon Falls plant will result in considerable economy in production costs, according to officials of the company.

Watson's Opinion

"Present tire prices are based on rock bottom spot rubber prices so that there is practically no chance of a further reduction" was the opinion expressed by John J. Watson, Jr., president of the Lee Tire & Rubber Company when announcing the new price list of his company in conformance with the general cut in tire prices.

Inside Soapstoning Device

Prevents blowing of soapstone about the work-room.
Unexcelled for 50′ and 500′ lengths of hose tubes, any diameter.
Automatically soapstones inside of tube as it is run from tubing machine—just a puff of soapstone at given intervals—feed can be regulated for more or less soapstone.

Cannot Stretch the Tube as Air Pressure Is Not Continuous.

SPADONE MACHINE CO., INC.
15 PARK ROW NEW YORK, N. Y.
Exclusive Selling Agents for H. MONROE SMITH

NEW CORPORATION TO OPERATE SOUND PLANT

The plant of the Sound Rubber Company of Tacoma, Washington, has been leased for a term of three years by W. E. McCormish, formerly of Akron and recently in charge of operations at the Gregory Rubber Company in Vancouver, B. C. Production will be resumed at an early date. The Sound Rubber Company went into receivership last October and after operating for a few months under the management of H. R. Greenlee, who was appointed receiver, was closed down and has since been idle.

According to Mr. McCormish, a new corporation will be formed under a new name, with new executives and new trade names for the products, and will in no way be related to the old company. It is expected that the plant will be producing 100 tires a day within the next few weeks, and considerable further expansion is contemplated.

New Alhambra Factory

The Alhambra Rubber Company has purchased the building in Milford, Massachusetts, in which it was located previous to a fire last winter, and will convert it into a modern factory. It is expected to be ready for occupancy by September 1st. The company manufactures a line of rubberized garments and hospital supplies.

REFUSES TO APPROVE SALE OF BERGOUGNAN

Federal Judge Withholds Confirmation of Price of $103,000 for All Assets After Stockholders Charge Bidding Was Done by Clique: Affadavits Filed in Denial.

Federal Judge William Clark has refused to confirm the sale of the assets of the Bergougnan Rubber Company of Trenton to a syndicate of that city headed by William A. Weinmann, who, on June 18 last, bid $103,000 for all the assets, comprising three large buildings situated on nine and one-half acres of land, and a complete assortment of tire-making and vulcanizing equipment.

At the hearing on the confirmation before Judge Clark, a number of stockholders charged that at the time of the sale there seemed to be a clique doing the bidding, but when the counsel for the rubber company questioned Weinmann and Israel Citron, a competetive bidder, they submitted affidavits to the effect that neither knew the other until the day of the sale.

The sale was conducted under the supervision of Charles E. Stokes, equity receiver of the company, and will come up for confirmation again at a later date not yet set.

Henderson in Europe

F. R. Henderson, president of the Rubber Exchange of New York, has sailed for Europe for one of his periodic reviews of foreign opinion on the crude rubber market and outlook. At the time of his departure he stated his belief that if the new restrictions on British rubber exports which are threatened as of August 1 should be continued for more than three months, the United States may force a shortage of rubber next year.

Company Changes Name

The Brooklyn Shield and Rubber Company, Inc., Brooklyn, New York, has filed a certificate in the office of the secretary of New York state at Albany changing its corporate name to Rand Rubber Company, Inc. H. P. Rand and L. H. Rand are officers of the company.

To Make Rubber Heels

The Aviator Rubber Co., Inc., has been organized at Brooklyn, N. Y., for the manufacture of rubber heels and rubber goods. The authorized capital of the company consists of 240 shares preferred stock $100 par value, and 3600 shares common stock $10 par value.

PRICE, QUALITY
and PROFIT

Again a drastic price-cut comes, and again our *BUFFALO* RECLAIMS offer a solution to the problem of MAINTAINING QUALITY AT REDUCED COST.

AT THE present cost of Rubber, our standard grades for Tread, Friction and Tube compounds insure satisfaction to producer and consumer alike.

Broad claims require certain proofs, and we are prepared to present them.

For Treads:
Black Diamond *and* Buffalo

For Frictions:
Antlers, Elk, Ranger and Bison Super-Reclaim

For Tubes:
Bison Super-Reclaim *and* Ranger

U.S. RUBBER RECLAIMING CO. Inc.
100 East 42 St. N.Y. — Factory-Buffalo, N.Y.
43 Years Serving the Industry — BISON — Solely as Rubber Reclaimers

Akron Representative: F. F. Dugan, 617 Second Nat'l. Bank Bldg.

CATALPO

CANADIAN IMPORTS OF RUBBER LOWER IN MAY

The imports of crude rubber and rubber manufactures into Canada during May were valued at $1,915,615, a falling off of over a half million dollars from the $2,490,460 imported in April, according to the report of the Dominion Bureau of Statistics. Because of the well developed domestic rubber industry the greater part of these imports was made up of crude and reclaimed rubber, practically all of which came from the United States. The imports of raw rubber were valued at $1,452,064, balata $702, powdered and waste rubber, $19,316, reclaimed rubber $117,086 and rubber substitutes $5,026.

The value of the golf balls imported, $34,024, exceeded that of any other single manufactured product, all but $345 of which came from the United Kingdom. The United States, however, was the principal source of all other manufactured rubber products. The imports of pneumatic tires were valued at $27,233, inner tubes $2,800 and solid tires $3,411. The imports of mechanical rubber goods consisted of $20,457 worth of rubber belting, $16,549 worth of rubber hose and $2,705 worth of rubber packing. Of the $24,619 worth of rubber clothing imported, the United States supplied $11,793, the United Kingdom $7,037 and Germany $5,789.

The imports of crude rubber and rubber manufactures into Canada during the twelve months ending May, 1926 represent a total value of $38,063,248 as compared with $15,029,194 in the corresponding period ending May, 1925.

Hewitt Rubber Sales

The Hewitt Rubber Company, of Buffalo, reports sales for June as 26 per cent greater than the preceding month. This includes the volume of Gutta Percha and Rubber Manufacturing Company, recently acquired by Hewitt. According to John H. Kelly, president, orders on hand indicate continued good business.

Acquires Hendrie Plant

The Eno Rubber Corporation of Los Angeles has taken over the factory of the Hendrie Tire Company at Torrence, California, and will manufacture a full line of mechanical rubber goods, oil well supplies, tire repair materials and molded rubber. The Hendrie factory has been closed since last fall.

Rumors of Merger Denied

Officials of the American Hard Rubber Company have published a denial of the rumor that the College Point plant belonging to the company is to be involved in a merger which would also include the recently-vacated plant of the Beacon Falls Rubber Shoe Company at College Point. The American Hard Rubber Company was founded in the Long Island city in 1854.

WORLD NOW HAS ALMOST 25,000,000 AUTOMOBILES

Latest revised figures on the world registration of motor vehicles for 1926 show an increase of 3,133,278 passenger cars, busses and trucks over the 1925 registration. The total for 1926 is 24,589,249 as compared with 21,455,971 for 1925. In connection with the figures as announced by the Automotive Division of the U.S. Department of Commerce, it is interesting to note that the number of persons per car has decreased from 1 in every 83 last year to 1 in every 71 this year.

Motor trucks now comprise over 14% of the total number of automobiles in use, the registration this year being 3,463,856.

Busses accounted for 172,617 in 1926, a figure which would show a large increase over previous registrations if separate figures were available.

As usual the United States led in total registration and number of persons per automobile, the respective figures being 20,051,276 and 6. United Kingdom was second with a total registration of 815,957 followed by France, 735,000, Canada, 715,962, Germany, 323,000, Australia 291,212, Argentina, 178,050 and Italy 114,700.

Work Sails For Europe

Bertram G. Work, chairman of the board of the B. F. Goodrich Rubber Company, sailed for Europe on the Majestic, July 17th.

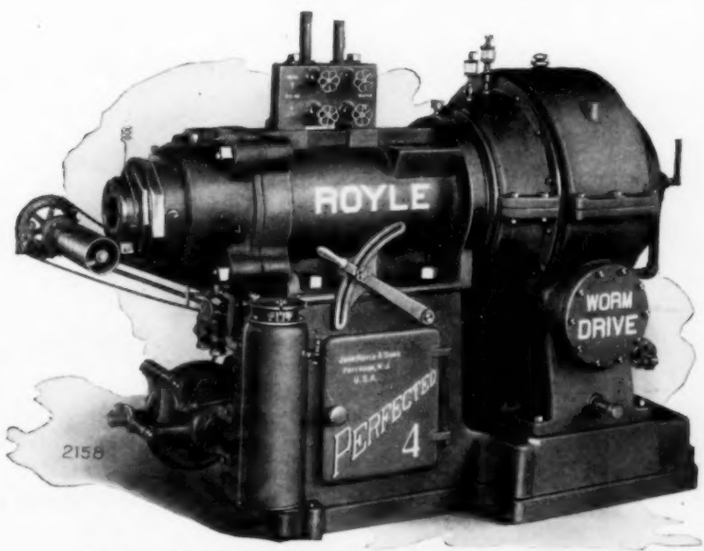
Royle Perfected Machines

for Tubing
Insulating
Straining

Extensively used for large production of inner tubes and treads.

Measured by "production", the Royle is the lowest priced tubing machine on the market.

And isn't that the right way to compare prices?



6-inch machine equipped for making inner tubes. Soapstone fittings. Electric heated die. Apron takeoff. Bulletin 307.

JOHN ROYLE & SONS, Paterson, N. J.

NEW RUBBER WASHING PLANT TO OPEN SOON

Considerable additional rubber washing facilities will be available soon to the American rubber trade as the Consumers Rubber Refining Company, Inc., of Elizabeth, N. J., opens its new plant. The full capacity of the plant, according to R. W. Patrick, president, will be more than 600 tons monthly and is said to be the largest and most complete of its type in this country. The company will be able to handle 150 tons or more at one time and deliver the lot within one week. Special provisions have been made to guarantee that each parcel retains its entirety while it is in the possession of the company for washing.

A complete laboratory has been fitted out for physical and chemical tests which will be under the supervision of W. H. Brawley, vice-president of the concern. A laboratory report will be issued with each lot and shrinkage tests will be made on all rubber prior to washing. Milling and compounding will be done upon request under the supervision of experienced operators. Special drying equipment has been installed.

Manhattan Building

A new $46,000 office and laboratory building is being erected in Passaic, New Jersey, by the Manhattan Rubber Manufacturing Co. It will increase the floor space of the company by 8,859 square feet.

HENDERSON, HELM & CO., INC.
44 Beaver Street
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WEEKLY MARKET REVIEW ON REQUEST

N.T.D.A. FAVORS NEW TIRE PRICE POLICY

Additional Tire Price Protection Given By Several Manufacturers and Extending to October 1 is Taken By Dealers' Organization as Evidence of its Influence.

The action of several tire manufacturers in extending the period of price protection for unsold tires in the hands of dealers is taken by the National Tire Dealers' Association as indicating a desire on the part of the manufacturers to assist the dealers in the way outlined in recent bulletins of the Association. The following statement has been issued by the organization over the name of George J. Burger, its secretary-treasurer:

"We are of the opinion that the recent announcement by rubber manufacturers can be looked upon by members of this Association as evidence that manufacturers paid some heed to our communications and bulletins as to a proper price protection which would enable dealers to purchase adequate stocks and put them in a position to service their customers in a satisfactory way.

"The announcement made on July 7 that orders placed on or after July 6 will carry October 1 price protection will no doubt be adopted by all manufacturers. You can readily realize that when October 1 arrives, dating and fall orders will be in order and the outlook for price protection until the spring of 1927 is very favorable. We would therefore recommend to our members that anyone purchasing a stock order after June 25 insist upon the manufacturer or manufacturers giving this additional protection of October 1 dating."

The price protection referred to in the above quotation is in addition to the usual guarantee of a rebate to the dealer on tires invoiced within thirty days prior to a decline in tire prices. The new protection extends beyond the thirty days and up to October 1, but it covers only tires remaining unsold at the time any price reduction should be made. Several manufacturers, including some of the largest producers, are offering the additional protection to stimulate sales to dealers who hesitate to carry large stocks in anticipation of further price declines. However, some manufacturers, also including some of the largest, have not joined in the plan and continue to ship their tires with only the usual protection guaranteed.

Delaware Rubber Factory

The American Rubber Corporation of Dover, Delaware, has been incorporated in that state for the manufacture of rubber products. The stated capital of the company is $1,000,000.

CATALPO!

Current Crude Rubber Items

PLANS FOR REMILLING NATIVE RUBBER PROCEED

According to the report of the Rotterdamsche Bankvereeniging, the idea of forming a rubber syndicate in the Dutch East Indies for buying up and treating native-grown rubber in local factories is materializing. There were many difficulties to consider before the plan was accepted, but evidently these are not thought insurmountable, and a company has been formed with a capital of 7,500,000 florins.

Those interested in the scheme believe it more logical to manufacture the rubber in the Dutch Indies than to have it first transported for treatment to Singapore, because the dirt and moisture in it accounts for about one-third the weight. The factories in Singapore, however, have an advantage over those built in Dutch producing centers, as the latter would have to be supplied with a complete mechanical apparatus for making large-scale repairs, which is not necessary in Singapore, where there are big machine shops. Such installations require considerable funds for their establishment, but, judging from the size of the capital of the new company this will be forthcoming.

Malayan Latex Shipments

Statistics recently received from British Malaya indicate a rapid increase in the use of rubber latex in England. During 1925 Malaya shipped a total of 48,392 gallons of latex to England which was three times the quantity shipped in the previous year. However, the British imports of latex are still exceedingly small as compared with the United States. Most of the rubber latex coming to the United States has been shipped from the Dutch East Indies but during 1925 Malaya sent 2,264,282 gallons as compared with 694,378 gallons in 1924.

OFFERS PROCESS FOR CONCENTRATING LATEX

Patrick Gow, director of several British rubber companies, and Dr. Ernest Hauser, an Austrian chemist, recently arrived in the United States and are negotiating for the disposal of American rights to a patented process invented by Dr. Hauser for concentrating latex.

Latex as shipped at present is about two-thirds water. Dr. Hauser claims that his process for treating the latex would reduce the proportion of water to 30 per cent. Such a concentration of the rubber would materially lessen freight rates and would therefore prove of considerable interest to latex importers. Dr. Hauser has an additional patent for the treatment of rubber which he claims will increase the life of tires at least 20 per cent.

NEW METHOD FOR NON-CHEMICAL COAGULATION

Various samples of rubber made by a new non-chemical method of coagulation have reached Europe and are said to be in very good condition with no traces of deterioration. R. A. van Prehn, director of the Cultuur Maatschappijen Plaoer, Coolie and Gedat (Java) and manager of the last two named estates, is discoverer of the process. Apart from the fact that no acetic or other chemical coagulants are necessary, the new system is claimed to have many advantages.

After various investigations of the rubber in Java and Europe, it has been discovered that the elasticity of the rubber made from this process has been increased by over 30 per cent, and that the duration of service obtained from the product is much longer. Two remarkable trials were made as follows:—

Five balls were made, each of which were coagulated in a different manner. These balls were dropped to the ground from a height of one meter. Ball No. 5, which was made according to the new method, rebounded nearly 35 centimeters higher than the other four balls. Five thin strips of rubber were made and stretched until they burst. Strip No. 5, coagulated according to the new method, stretched nearly twice as long as the other four before breaking.

THE HARSHAW FULLER & GOODWIN CO.

545 Hanna Bldg.—Cleveland, Ohio

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RUBBER MANUFACTURERS

ANTIMONY SULPHURET — LEAD OLEATE
CHROMIUM OXIDE — RED LEAD
GLYCERINE — LITHARGE

PARA CLAY — Dry Ground
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RECLAIMED
RUBBER
Grey— Black—Red

We Specialize in Fine Reclaimed Rubbers.

Your Inquiry Is Solicited.

THE DEFIANCE RUBBER CO.

Defiance, Ohio

TO PRODUCE GUAYULE AND CAUCHO IN MEXICO

A new company which will undertake the production of rubber in Mexico has been launched in Kansas City, Mo., by Edward J. Cudahy of that place and Don Luis Castilla of Mexico City. The former claims to control an extensive acreage of guayule shrub in the state of Coahuila, Mexico, while his partner represents Mexican interests which control a rubber plantation of 20,000 acres in the state of Chiapas.

The company will be known as the Cudahy-Linda International Corporation and will have its headquarters in Kansas City. According to Mr. Cudahy, the company's first rubber is expected to be marketed within sixty days. The announced capital of the corporation is $5,000,000.

The Chiapas plantation is said to consist of 5,000,000 trees, presumably Castilla. Its location is given as within 100 miles of Tapachula. Full equipment for preparing rubber for market is stated to be already in place.

Frank Breiner

Frank Breiner, foreman of the American Hard Rubber Company for 25 years, died at his home in Akron on July 5th after an illness of two years. He was 57 years of age. Mr. Breiner was a veteran of the Spanish-American war and a lifelong resident of Akron.

When Considering

RECLAIMED RUBBER FOR INNER TUBES

—don't overlook the fact that our No. 188 is made especially for this purpose. This stock is clean, ages well, mixes easily and cures with good resistance to wear.

¶ No. 188 stock is the result of long experimentation to produce the ideal reclaim for inner tubes. Data prepared by our technical staff will be gladly sent on request.

Ask about No. 188 for Inner Tubes.

The Philadelphia Rubber Works Company

AKRON OHIO

52 Vanderbilt Ave., New York City.

Land Title Building, Philadelphia.

RUBBER IMPORTS AND CONSUMPTION LOWER

June Figures Show That Both Imports and Consumption of Rubber in June Are Considerably Lower Than in May—On the Other Hand Stocks Show Increase.

The tendency toward lower rubber imports and consumption in the United States, shown in the figures for May, was maintained during June as revealed by statistics just released. June rubber imports were only 27,915 long tons, announced the Rubber Association, compared with 30,107 tons during May.

This year's rubber imports were even lower than in June, 1925, when the tonnage was 28,522. The total imports for the first six months of this year were, however, somewhat higher than in the corresponding period of last year, the figures being 181,787 for 1925 and 208,637 for this year.

Consumption statistics for the month of June released by the Rubber Association and raised to 100% show a total of 28,599 tons compared with 29,364 for last month. This decline in consumption was predicted in these columns last month at which time it was pointed out that in March and April, consumption was just under 33,000 for each month. The total rubber consumed so far this year has been considerably under that used in the corresponding period of last year but from present indications and from reports received from the Akron and New England districts, it would appear that consumption is on the increase and July consumption figures will take a jump.

Stocks on hand, according to the Rubber Association, were 60,460 tons at the end of June, but from other sources it is understood that 3,770 tons should be added to this figure to allow for the stocks on hand by non-members of the Association, bringing the total rubber on hand in the United States up to 64,230 tons. May stocks were 63,913 tons.

Preliminary figures on the average price of rubber imported into the United States, as released by the Rubber Division of the U.S. Department of Commerce, reveal that the downward course of prices shown by average figures since the beginning of this year was halted in June when 62.24c was the average for the month. Averages for other months of this year were as follows: May, 55.35; April, 62.99; March, 74.76; February, 79.78. The explanation for the increase in the June average lies undoubtedly in the fact that a large portion of the month's imports were on contracts made some months ago at higher prices, with a smaller proportion of short contracts at lower prices.

CATALPO!

FEATURES "NO RECLAIMED" IN LATE ADVERTISEMENTS

In its latest advertisements the North British Rubber Co., Ltd., Edinburgh, Scotland, is making a big feature of the Statement that its tires contain no reclaimed rubber. Under the large type heading "No Reclaimed Rubber", the following paragraph appears:

"Only the finest plantation rubber, the pick of the world's markets, is considered fit company for the super-quality Egyptian cord used in the North British range of tires. Transatlantic makers may hint darkly at an enormously increasing consumption of reclaimed rubber in tire manufacture, but for North British tires only the best plantation rubber is good enough. That is why there is a mileage guarantee with every North British make of tire."

As a result of amalgamations with other companies, North British now manufacturers three makes of tires, clincher cord, Rapson, and Air Sprung.

AUTOMOTIVE COMPANY MAKES RUBBER STEERING WHEELS

The Inland Manufacturing Company of Dayton, Ohio, a subsidiary of The General Motors Co., which has developed a large business in the manufacture of automobile steering wheels, has recently been devoting attention to the use of rubber for this purpose. Additional employees have been taken on and extra floor space provided for the manufacture of rubber steering wheel rims and other hard and soft rubber products for use in automobile manufacture. Officials of the company are said to be optimistic over the possibilities for the development of rubber in connection with the manufacture of automobiles.

To Float Indian Dunlop

According to an authoritative statement in *The Times of India*, an Indian Dunlop Company is shortly to be floated. Capital amounting to 30 lakhs of rupees (approximately $972,000), it is understood, will be available for public subscription in cumulative preference shares, bearing interest at 6 per cent, tax free, guaranteed by the Dunlop Rubber Company, Ltd., in perpetuity. The prospectus is expected to be issued during July.

New Cushioning Material

A new flexible material said to be somewhat similar to rubber has been introduced in the French market under the trade name of "Silentbloc", according to a Department of Commerce report. It is used as a cushion between metal parts which have a limited play of action such as spring ends, and is designed to take the place of lubricated bearings in such parts of automobiles or other machinery. If successful it will be a considerable forward step in mechanical construction.

GOULD RUBBER COMPANY ORGANIZED IN FLORIDA

Announcement has been made of the organization of the Thomas G. Gould Tire and Rubber Company for the manufacture of rubber products in Miami, Florida. The officers of the company are G. D. Brossier, Sr., president; Thomas C. Gould, vice-president; and G. D. Brossier, Jr., secretary-treasurer. Mr. Gould has been in the rubber business for 22 years and organized the Cuban Tire and Rubber Company at Havana. Work will be begun immediately on the construction of a tire and rubber plant, according to officials of the company, and production will begin about the first of next year. The plant with equipment will cost about $750,000.

Pioneer Beach Ball

A large light ball for use in play on beaches and elsewhere, known as a beach ball, has been added to the line of rubber novelties manufactured by the Pioneer Rubber Company of Willard, Ohio. Toy balloons and play balls of other sorts have been in production for a considerable time. The company employs about 100 men and women and has a branch factory at Attica, Ohio. A laboratory for research work has recently been added to the Willard plant.

McQuate May Move

The McQuate Rubber Company of Marion, Ohio, is reported to be contemplating moving its factory to Dayton. The company, which manufactures toy balloons and other rubber specialties, has made rapid progress since its organization and did a business of $70,000 last year, according to its president, W. W. McQuate.

Effect of Particle Size

The program for the 45th annual meeting of the Society of Chemical Industry now being held in London includes a paper dealing with the influence of particle size of rubber compounding materials. Discussion will follow the reading of the paper. The meeting of the Society will take the form of an international congress of chemists.

CLASSIFIED ADVERTISING

10 cents a word, minimum charge $2.00, payable in advance.
Address replies to Box Numbers, care THE RUBBER AGE, 225 Fourth Ave., New York.

HELP WANTED

Wanted by progressive Eastern tire plant, a curing room foreman. Must be thoroughly familiar with all operations and capable of producing results. Splendid opportunity for man not afraid of hard work. State experience and salary expected in first letter. Address Box 431, THE RUBBER AGE, 225 Fourth Ave., N. Y. City

MAN FOR CHEMICAL LABORATORY and research work by rubber manufacturing plant located in the East. Permanent position. State past experience. Applicant must be able to furnish best of references.
Address Box No. 430
Care of THE RUBBER AGE

BUSINESS OPPORTUNITY IN GERMANY
As your representative, I can procure for you the business of the third largest consumer of rubber in Germany. Large turnover for capable firm. Office, warehouse and good relations existing. Correspondence German, English or French. Write to: Jacob, Arnstadterstr 30, II, Erfurt, Germany.

BATHING CAPS, SUNDRIES AND ACCESSORIES MANUFACTURER
Who desires to secure active representation in the New York and Eastern market can make unusually attractive connections with a strong and well-established sales agency which has a large following among jobbers, chain stores, department stores and mail order houses. Can assure the placement of a large volume of business to the right manufacturer.
Address Box 432
THE RUBBER AGE,
225 Fourth Ave., N. Y. City.

FOOTWEAR FACTORY FOR SALE
Fully equipped rubber footwear plant including tennis and sport shoes, and partially equipped hard rubber factory, sale or rent, option to purchase; 2 acres facing harbor and hard surface road; 50 miles from New York City; 500 h. p. engines and boilers, good condition, ready to run. Henry S. Mott, Northport, N. Y. Telephone Northport 22.

Covers the Field First
That's why your 'ad' in THE RUBBER AGE
Classified Section 'pulls' so well—and so quickly.
USE FOR PROMPT ACTION!

INTERNATIONAL PULP CO., *41 Park Row, New York, N. Y.*
SOLE PRODUCERS OF PURE **ASBESTINE** SPECIALLY PREPARED FOR USE IN RUBBER
Covered and Protected by Letters Patent Registered at U. S. Patent Office, Washington, D. C.
LIBERAL WORKING SAMPLE FURNISHED FREE

EDITOR'S REVIEW DESK

Books **Trade Catalogs** **Articles**

MODERN STEAM, WATER, AIR, OIL AND GAS SPECIALTIES. Catalog No. 22. The Mueller Steam Specialty Co., Inc., New York.

This new catalog illustrates and describes the pressure reducing and regulating valves, strainers, boiler controls, steam traps, back pressure and vacuum regulators, liquid level controllers, pump governors and other equipment of similar nature manufactured by the company.

* * *

RUBBER SUBSTITUTES (LES CAOUTCHOUCS FACTICES OU HUILES VULCANISEES). A. Dubosc. 212 pp. 6″ x 9″. Published by A. D. Cillard, 49 Rue des Vinaigriers, Paris, Xe. 27 francs.

This extensive treatise by A. Dubosc, who has contributed many articles to *The Rubber Age*, deals completely with rubber substitutes and should form an important addition to the chemical publications of interest to the rubber industry. The preparation, characteristics and use of vegetable oils, fish and animal oils, sulphurating substances and substitutes of varied character is carefully studied. The analysis of rubber substitutes and observations made in connection with their use are treated.

* * *

THE OAK LEAF. Monthly bulletin of the Oak Rubber Co., Ravenna, Ohio.

The July issue of this house organ is the fourth number of the first volume. The use of balloons throughout the United States and new Oak rubber novelties are featured. The statement is made that Oak brand balloons are to be seen on ninety per cent of all circus lots. Each issue of the bulletin describes and illustrates a step in toy balloon manufacture. News items about distributors of the company's products are included.

AERO BRAND RUBBER ACCELERATORS. 18 pp. 4″ x 8″. American Cyanamid Company, New York.

After pointing out that the desirable properties of a rubber accelerator include universal applicability, stability and freedom from scorching, discoloration and toxicity, this bulletin states that diphenylguanidine and di-ortho-tolylguanidine meet the conditions admirably and may be used with equal success in all classes of rubber compounds and in conjunction with practically all compounding ingredients. The relative accelerating values of some common accelerators are discussed as are their aging properties. The valuable qualities peculiar to Aero brand accelerators are treated in the closing pages of the booklet.

* * *

RUBBER FOAM (CAOUTCHOUC MOUSSE). Its Properties and Uses. C/M Company of America, Chicago.

The elasticity, shock-absorbing, sound-deadening and insulating properties of this French-made special sponge rubber, for which the C/M Company is exclusive distributors in the United States and Canada, are completely set forth in this booklet, followed by several pages on the application of the material in aircraft, aviation suits, sporting goods, and hospital equipment. Other places in which its use is described include baby carriages, swimming belts, bath mats and radio cushions. The statement is made that all uniforms worn by "Red" Grange, famous football star, were padded with Rubber Foam. A letter of commendation from the Bureau of Standards is reprinted as is a descriptive article originally appearing in *The Rubber Age*.

WHITING

Domestic

SUPERFINE

Snow-White

300 mesh

A *quality* product
at moderate price

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Members Rubber Exchange of New York, Inc.
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Telephone Main 3799

The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

This Week the Gentleman Says "Get Your Stop-Watch".

LONDON, July 14, 1926.

THE STEVENSON SCHEME", states a writer in the June issue of *The Bulletin of the Rubber Growers' Association* when paying a tribute to the late Lord Stevenson, "brought confidence instead of chaos, and if the sound principles underlying it are maintained, and producers and manufacturers co-operate to bring about greater stability in the industry, the work which Lord Stevenson initiated can be carried on for the benefit of all concerned."

Again the question of the cooperation of American buyers is raised and we are reminded of the suggestion put out by Mr. Eric Miller and other British rubber leaders last winter, that if American buyers had done their part and purchased a few hundred tons of rubber at the end of January, 1925, the average price for that quarter would have gone up to 1/3 per pound, more rubber would have been released and the tight place of last summer would have been avoided. Maybe so, maybe so: anyway, for sake of argument, how about the quarter ending the 31st of this very month? How are "producers and manufacturers to co-operate" on July 31st, 1926?

Is the greatly desired "greater stability" to be had by maintaining the average price at 1/9 per pound for this three months, or by permitting it to fall below 1/9 so that 20% will be taken off the free export quota from the British East? So far this quarter (to July 13) the average price is about 1/9.197 but for the last several days the price has been 1/8¼. On July 7, it dropped to 1/8. Up to June 22 it had averaged 1/9¾, to July 1, 1/9.3, and then 1/9.197 on July 13. Thus the steady recession is setting the stage—or shall I say the track?—for another close finish on July 31. If the price stays at or lower than about 1/8.3, the average for the quarter will be under the 1/9 figure. This fall's values of British-grown rubber and British rubber growing companies' shares would certainly be best served by a 20% reduction in the Stevenson quota on August 1, and frank persons say so.

WHAT ABOUT the American interest? Some people in London hold that since American manufacturers have had to cut tire prices on account of severe competition for a reduced demand, they would welcome a stiffening of rubber prices, anything—even another boom—being better than the further depreciation of rubber held in stock and the refusal of tire dealers to stock tires on a falling raw material market. If this proved to be the American manufacturers' desire, American and British interests might consider it best to cooperate and let the 20% come off.

American buying interests might think instead that the 20% would come off just when they would have to come into the market for big supplies again, and assuming that there was then a growing demand, it would lead to another run-away price movement, perhaps to 4/8 rubber once more. They might decide that further restriction (20%) in the fall might be very bad for their interests, and consequently do their best to hold up the price to 1/9 per lb. Could they do it? Certainly not if the leading growers were active to break down the market to a price lower than 1/9.

The London market is controlled by the growing interests. Naturally those who hold the supplies of the raw material, that is, the sellers, can say how low a price they are willing to accept below the market quotation. Buyers would not be lacking should manufacturers or merchants refrain from taking the proffered rubber, as speculative interests would be inclined to pick up any such fancy plums, unless of course they become frightened by large quantities being dumped on the market, in which case there would be nothing to prevent determined growers selling to one another.

CARRYING THE idea to its fantastic conclusion, by confidential agreement solely to influence stragetic prices, manufacturing interests might also buy one from the other through the Mincing Lane Exchange during the last day or two of the quarter. As the daily price is determined by the last transaction as the exchange closes officially at 3:30 in the afternoon, a stop watch might have to be held by the exchange manager to determine which—grower or consumer—shouted out the last order at 29.999 minutes past 3 o'clock on important afternoons. But the growers would win!

In a written reply to a question in the House of Commons a few days ago, the Colonial Secretary stated that the Government deemed the raising of the pivotal price in the Stevenson scheme from 1/3 to 1/9 necessary "to bring the restriction measures more in line with actual conditions in the industry". From this it may be deduced that 1/9 is to remain the pivotal price in the future.

Under the gentlemen's agreement made this spring the principal growers aim to hold one-twelfth of their annual output as a part of a conscientious plan to prevent speculators ramping the market again. It is not known how wide this movement is, but the impression is abroad that those now included control a very substantial proportion of the British estates, or enough to make possible the accumulation of stocks in growers' hands a real factor in the control of the market, assuming of course that supply or demand factors do not get out of hand for one reason or another.

No economic subject of the first magnitude is long overlooked by J. M. Keynes, the well-known author of "The Economic Consequence of the Peace". In the

June 12th issue of "The Nation & The Athenaeum" he has written on the subject of "The Control of Raw Materials by Governments". Defending the Stevenson Act, he writes:—

"Where the industry is in a few strong hands, the necessary curtailment may be arranged by agreement. But if there are many small, and perhaps ignorant, producers, and if, besides, the industry is the main occupation of the place, so that its bankruptcy involves the general ruin of the country, and no one has any alternative occupation to which he can turn, then it seems to be both inevitable and right that the Government should intervene. It is laisser-faire gone crazy to maintain the contrary.....

"I argue, therefore, that there is all the difference in the world between a case where a Government is endeavoring to exploit a monopoly or a position of economic advantage, and where it is endeavoring to protect one of its staple industries from bankruptcy and the consumer from violent oscillations of price below and above the normal selling price. In the former class the cases where it will be successful in the long run and will not in the end defeat its own objects are somewhat rare. Anyhow these attempts at national profiteering tend to impoverish the world as a whole, and are examples, if anything is, of bad international practice. In the latter class, the consumer is benefitted in the long run, and if they are carried out judiciously, the world as a whole is richer. For it would not have benefitted consumers of rubber in the end, if all new rubber planting had been stopped and existing plantations abandoned to the weeds of the tropics.....

"If the Eastern rubber producers aim at maintaining permanently a price level above the eventual cost of production elsewhere, Mr. Hoover is justified in encouraging production in new districts. He is also entitled to denounce tariffs and all public and private instruments of international monopoly as examples of bad international practice, provided he is ready to apply his principles impartially all round. But I think that he would do well to make an exception in favor of all schemes the primary object of which is not to make abnormal profits but to avoid abnormal losses. If he is interested in general principles, he might think the matter over again with this criterion in view."

D. M. Figart in his "America and Rubber Restriction" cites various opinions of British growers in the East to disprove the bankruptcy plea and refers to the London *Telegraph* of January, 15, 1923, which stated: "There can be few industries that have come through the world depression with so little loss as the rubber industry. Not a single rubber company has disappeared and there have been fewer appeals for capital and less numerous reconstructions than in other industries of equal magnitude".

Regardless of the unending argument for and against the Stevenson plan, there can be no doubt but that the revivial in rubber, whether it came about through the restriction scheme or in spite of it, has been a factor of incalculable benefit to British morale. It put new life and new hope into business in London in 1925 and 1926 when such a revival was badly needed to offset the four years' depression in home industry and shipping. American friends of Britain can be glad of this, no matter how heartily they disagree with the governmental interference with supply and demand which complicated the situation.

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EDITORIAL COMMENT

Protecting the Public

With increasing frequency these days one hears of new rubber planting companies being formed somewhere in the United States. Quite often they are in cities where no unusual interest in rubber has been known. Equally often are the officers of the new companies men who know nothing about rubber growing or tropical agriculture of any other sort. Their announcements or prospectuses invariably refer to the impending shortage of rubber, and to the enormous profits that British rubber shareholders have made. Their statements on these two topics are not always accurate but they err in a way which makes one feel that they represent misinformation rather than an effort to avoid the impressive truth.

It is to be hoped that all these prospective rubber planting companies are sincere in their belief that their ventures will provide needed rubber and at the same time yield handsome profits to investors. No doubt some of them are sincere while others are less scrupulous. When either kind starts out without a real understanding of the task being undertaken, there is little difference in the danger it holds for investors. Planting sites have been selected without examination, statements by foreigners with land to sell are accepted without question and plans are completed without the assistance of experienced planters.

Happily for the cause of American rubber planting, not a great many of these companies have so far been promoted. The interest in them subsided somewhat with the decline in the price of crude rubber. When the glow faded in the rubber profits picture, it became less easy to sell. As rubber rises again, the invitations to the public to make enormous profits like the British shareholder has done will undoubtedly be more numerous.

Such a situation recalls the rubber planting fiasco of around 1910 in Mexico. The price of crude rubber was at its peak. Plantation rubber had established itself. The first British investors were reaping the harvest of their courage. In America the investors proved to be more courageous than discreet. Rubber planting companies sprang up on all sides, particularly in the Middle West. Small investors who would not have recognized crude rubber if they had seen it, gave their savings gladly to hastily-organized companies whose executives were no better informed. They sought the nearest tropics—southern Mexico—and planted Castilla. In the absence of more definite data on rubber culture, the losses that followed can be somewhat condoned.

To-day we have a different situation. Rubber growing is an established industry about which there is no lack of information. The American government has spent a large sum in collecting and publishing facts concerning the possibility for establishing rubber plantations in all parts of the tropical world. There was never, of course, any excuse for the unscrupulous company and now there is no excuse for the uninformed one. The most pertinent fact shown by the printed data is the need for constant, expert supervision of all plans and operations. The public should be protected from any company that does not provide such a safeguard for its investors.

In the final analysis any great enlargement of America's now insignificant share in the rubber plantation industry will depend upon the participation of the public. If large American plantation companies are formed, it is sure that the public will, in one form or another, provide the funds and hold the securities. If numerous small companies are formed, as in Great Britain, the same widespread holding of shares can be expected. There is no questioning the necessity or value of such public cooperation.

Yet the public will not respond to the soundest appeal of planting companies in the future if it has become understood that such investments are hazardous, or that rubber planting companies are commonly found in the fly-by-night class. The Mexican fiasco is not forgotten in many quarters and will not hasten the sale of stock in any rubber planting company, no matter how soundly and wisely it is organized.

Because rubber growing will in the end be the public's problem, the rubber manufacturing industry of this country might well interest itself in protecting the public from unsound or dishonest projects. To the rubber industry of this country the analysis of planting ventures would be a simple matter. Through established agencies or by direct negotiation it should not be difficult to instruct or persuade prospective planting companies whose propositions are found to be unsound. In that way not only would the funds of many small investors be saved to assist in worthier projects but the confidence of the general investing public would be maintained.

The Import Price

Preliminary figures of the Department of Commerce covering crude rubber imports in June through the ports of New York and Boston indicate that the average declared value of the rubber was around 62 cents per pound as compared with 55½ cents in May. Many people had expected the average import price to continue in June the decline which started in February after January's rubber had shown an average value of more than 80 cents per pound. This surprising turn in the other direction can only mean that the June receipts included a smaller percentage of short-time, lower-priced rubber and a larger percentage of long-time, high-priced rubber. In other words, the manufacturers are still feeling the effect of last year's flurry.

The up-turn in the import price should make it clear to the industry's critics that the claim of having long committments at high prices was based on solid fact. Furthermore, this showing will reveal the inability of the manufacturers to make another cut in tire prices, either immediately or in the near future. It is not to be expected that the "price-reductionists" will be quieted by one cut but if they would be fair to the industry, they would have to admit that the public was given as complete and prompt a benefit of the lower crude rubber prices as was possible.

Improved Rubber Mixing Rolls

[PART 2]

Improved Accessory Devices for Rubber Mixing Rolls Result in Labor Saving Without Lowering Efficiency

This is the second part of a review of the improvements recently made in the design and control of rubber mixing rolls and accessory devices. It was prepared by P. Hoffman, a German authority on rubber plant equipment, and was printed in *Gummi-Zeitung*. On account of the completeness of the article and the interest it holds for every American rubber factory engineer, *The Rubber Age* arranged for translation of it and the reproduction of the original diagrams. The first installment appeared in the July 10 issue. The present installment deals with special conveying devices and improved facilities for turning over the rubber mass.

IN THE CASE of the mixing rolls seen in Figure 9, the lower rollers 1 and 2, which are provided for the conveying belt 3, are made to turn in bearings 4 and 5, which are located in a large trough 6. Bearing 4 is fixed but bearing 5 can be moved. An arm 7 is located at bearing 4 and on this arm there is connected the rotable bar 8. This bar carries the guide roll 9 at its free end. This arrangement is naturally provided at both ends of the rolls and forms a part of the superstructure of the mixing rolls. The bearing 10 of the third guide roller 11 is movable along the rod 8, and it is held in place by means of a cord 12 which is passed over the roller 9. The end of the rope 12 is fastened to another roller 13, which turns on the shaft 14. This shaft carries another roller over which the rope 15 passes, to the end of which rope there is attached the weight 16, while the other end is fastened to a windlass 17.

Arrangement Easily Built Into Mixing Roll

Due to this arrangement, the roller 11 and the conveyor belt 3 are pressed constantly against the front mixing roll a. If the mass of rubber on the roll a is to be made accessible, then the weight 16 is lifted by means of the windlass 17. This causes the rotation of the shaft 14 in such a fashion that the tension on the rope 12 is removed and accordingly the roll 11 and the conveying belt are lowered. The rubber mixture is prevented from falling off the conveyor belt by means of leather strips 18. In this type of construction of mixing rolls attention is particularly to be called to the fact that the arrangement can be built into a mixing roll that has been in use in the plant and that does not possess this automatic handling device, and it is for this reason that the principal parts of the apparatus are arranged in a trough 6 which is independent of the superstructures of the mixing rolls.

But inasmuch as the bar 8 is apt to be in the way, an improvement has been made in the apparatus as may be seen from Figure 10. In this case the rollers 1 and 2 and the conveyor belt 3 are arranged in the same manner, as described above. The shaft 14 is likewise rotated by means of the rope 15, the weight 16 and the windlass 17. It carries as well the roller 13, to which the rope 12 is fastened, and on which the bearing of the roller 11 is supported. The bearing 10 rests on an arm 19 to which there is connected the arm 20, which rotates in a pinion 21. As the weight 16 is raised, the arms 19 and 20 come together, as is shown in dotted lines in Figure 10, and the arm 20 comes to rest on the part 22. In this way not only the roller 11 but also the rod that carries it are moved out of the way. For adjusting the roller 11, a roller 24 is arranged in a movable position on guide 23.

If the front guide roller of the conveyor belt is lowered, then the tension on the belt is removed and it falls into the trough underneath the mixing rollers and at the same time the inner side of the belt becomes contaminated by coming in contact with the rubber mixture that is located in the trough. As soon as the conveying belt is again brought into its working position, then these impurities are transferred to the guide rollers of the belt, and the net result is that entire equipment must be cleaned. In order to get around this difficulty springs or weights are made to act on the bearings of the rear guide roller, so that when the front roller is lowered, the rear roller is pushed aside so far that the conveying belt still remains under tension in a position of rest. (See Figure 11).

In such an apparatus, the conveying belt 1 is led over four rollers, namely, 2, 3, 4 and 5. Two of these rollers, 2 and 3, are made to turn in bearings located in the arms 6, and these arms are rotatable around the pivots 7. At the upper ends of the arms there is located the cord 8 which runs over the pulleys 9 and 10 to another pulley 11, which is located on the shaft 12. The cord is fastened to the pulley 11. The shaft 12 carries a wider pulley and another cord 13 is wound around it. This cord is led around the pulley 14 and is fastened to the framework of the machine at the point 15.

The pulley 14 is connected by means of the rod 16 to a piston 17, which is actuated by compressed air in the cylinder 18. The roller 4 is in a fixed position, and on the other hand the roller 5 is fixed to bell crank levers which are fastened to a shaft 20. These bell crank levers are connected at their other ends to strong springs 22.

When the piston 17 is moved upwards in the cylinder 18, then the shaft 12 is rotated in such a fashion that the cord 8 permits the arm 6 to be shifted into its position of rest. At the same time the bell crank levers 19 and 21 are rotated by means of the springs 22 in the clockwise direction. This causes the roller 5 to move upwards and the conveying belt 1 is put under tension. The rollers and the conveying belt then assume the positions indicated by the dotted lines.

As soon as the piston 17 is moved upward, due to the pressure of the compressed air in the cylinder, all the parts of the machine are made to return once more to their operating positions.

Overcoming Shifting of Conveyor

The frequent lifting and lowering of the conveying belt is an inconvenience when the rubber mass is turned over by mechanical means. The machine, which is shown in Figure 12 and which is made by the Societe A. Olier & Co., has an improvement in this direction. Above the mixing roll 2, which is more strongly heated than the other mixing roll 3, there are arranged two plow-like devices 16. By this means the rubber mass is turned over, as it is being mixed between the rolls. The device 16 is regulated, so that it presses down on the mixing roll by means of a screw device 17, which is suitably fastened to the frame of the machine. The rollers 12, 13, and 14 are located under the mixing rolls and over them is passed the conveying belt 11. The roller 14 turns in rotatable arms 15, so that the position of the belt 11 is that

shown in the dotted lines on the drawing, when the rubber is being removed from the roll 2. The mixed materials can feed into the funnel 4 and pass through the distributor 5, which is driven by the sprocket wheel 6 and the chain 7, the latter also running around the mixing roll 3.

In a similar machine made by Garabiol in Paris, which is shown in Figure 13, an endless belt 1 serves for moving the mixed mass, while the doctor 3 is located over the other roll 4. The belt 1 is provided with scraping pegs 5, which run parallel to the axis of the mixing rolls. The belt is driven by means of the rubber rolls 6, which are in contact with the roll 2. These rolls and the guide roller 7 are surrounded by the sheet iron plate 8, which is fastened to the framework of the machine in some suitable fashion. The sheet iron covering can be moved around the shaft of the roller 6 and is loaded down by means of the weight 9 in such a manner that the roller 6 is pressed against the roll 2 with the required amount of pressure.

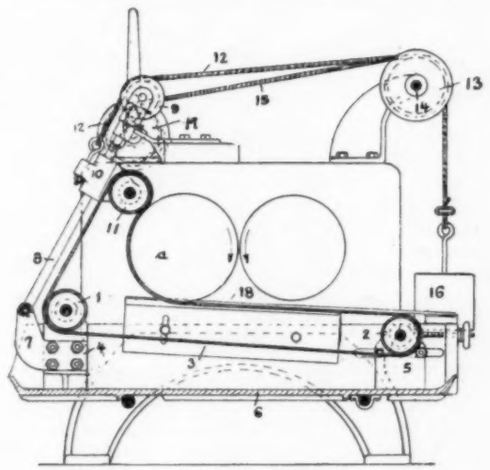
The entire conveying arrangement can be located around the shaft 6 of the rubber mixing rolls, and the clamps 10 hold the part of the conveyor belt, which lies near the roll 2, in position. The rubber mixture, which falls down between the mixing rolls, is caught on the sheet iron plate 11 and directed to the conveyor belt. This piece of sheet iron is rotatable and is retained in the working position by means of a suitable weight. However, it can be easily moved out of position, when necessary, as for example, when the rubber is cut off and removed from the roll 4. The doctor 3 is made in the shape of a plow and can be fixed in an adjustable position by means of screws.

The use of such plow-shaped doctors means that the rubber is always worked up in the same manner between the mixing rolls. This is not exactly advantageous in the mixing process since the substances that are mixed with the rubber are more quickly and better distributed throughout the rubber mass when the position of the rubber particles is constantly being changed with respect to one another. Hence, Robert M. Graham of Akron, Ohio, has provided the doctor with a drive, through which it is possible to make any desirable change in the working of this device. Figure 14 shows a vertical section through the middle of the mixing rolls in such a mixing apparatus.

From this illustration it is possible to see the arrangement of the doctor, which is also to be found at the other end of the roll. Under the two rolls 1 and 2 there is located the ordinary conveyor belt 3, which runs over rollers. The doctor 4 is located over the roll 1 which is heated to a higher temperature than roll 2. The doctor is made in the form of a plow. The doctor rests on its carrier arm 5, which may be moved in a guide 6 and which can be moved backwards and forwards by means of the spindle 7. The latter is held by the supporting arm 8 and this arm may be moved along the shafts 9 and 10. The spindle 11, which is fastened in position by means of a thumb-screw, serves for this purpose. The drive for the spindles 7 and 11 is arranged in such a fashion that the shafts 10 and 9 are rotated by means of a chain drive from the roll 1 and its motion is transferred by means of a gear wheel drive to the screw 12 containing the thread for the spindle 7 and also to the spindle 11. The drive is carried out in such a manner that the direction of rotation of the two spindles is reverse in character. For this purpose special electrical connections are required.

The doctor 4 is moved up and down by means of the spindle 7 and by means of the spindle 11 the supporting arm 8 is shifted toward the end or the middle of the roll 1. The electrical connections of the gear wheel drive is regulated by means of a suitable switch control, which is rotated with

FIG. 9



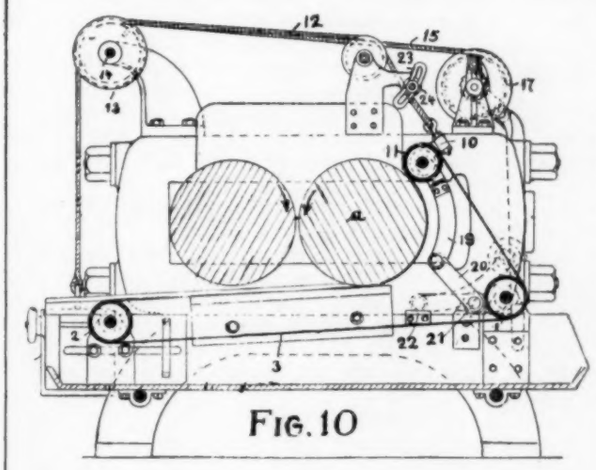


FIG. 10

FIG. 11

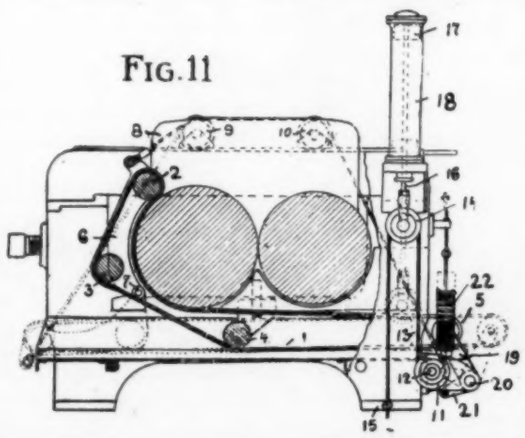


FIG. 12

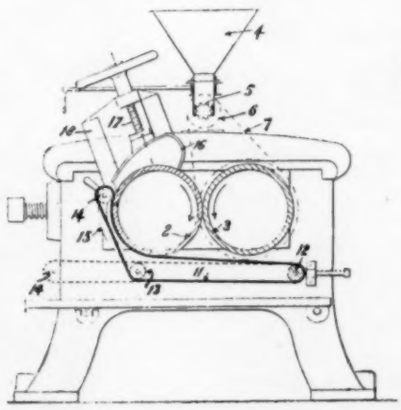
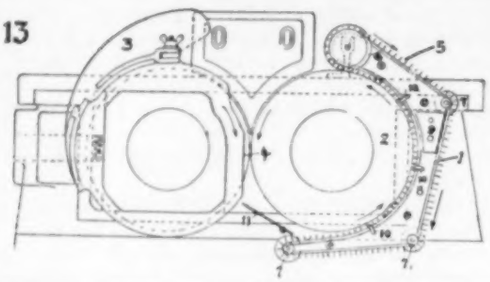


FIG. 13



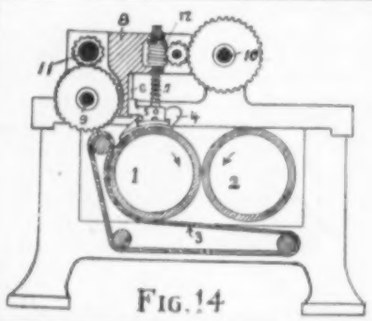
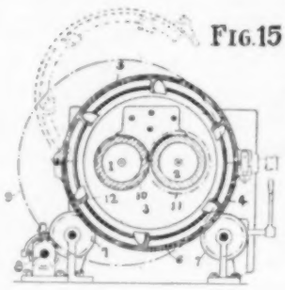


FIG. 14

FIG. 15



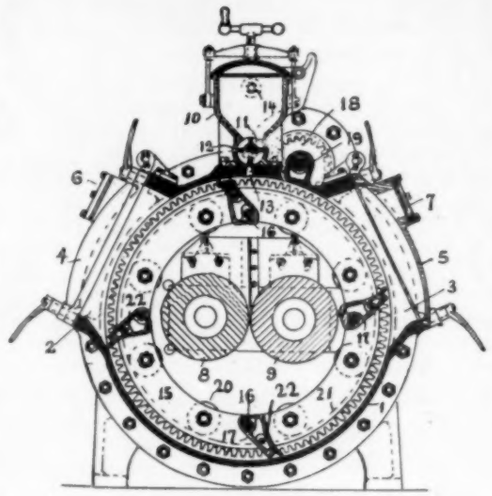


FIG. 16

the aid of a chain drive from the shaft 10. The contacts that are made by this switch are adjustable in such a manner that the connections can be made in quite different manners. Thus, for example, the two doctors can be moved together at one and the same time, so that they approach one another, or one can remain stationary while the other is moved. The doctor that is moved can be shifted either in one direction or the other. Furthermore, the doctors can be moved up or down at regular time intervals, and it is also possible to lift or lower the doctor as it moves along the roll, and in this manner the rubber mixture may be cut off the rolls or else wrapped around them again. Thus the work of the doctor is almost the equal of that of hand work.

Inasmuch as the materials that are admixed with the rubber gum are generally employed in the form of a fine powder, a considerable amount of dust is produced during the mixing process. Thus a certain amount of filler goes to waste and also dirties the machines. In order to avoid these difficulties, an arrangement has been devised, as may be seen from Figure 15. In this type of mixer, the entire machine is surrounded by means of a dust-proof housing. The rolls 1 and 2 run in a casing which consists of stationary side walls 3 and a drum 4. The walls 3 are fastened internally to the bearing supports of the rolls and are round in form, for thus its edges serve for the introduction of the drum 4 in a dust-proof fashion.

The latter is provided with a cover 5, which can be fastened, and carries a toothed arrangement 6 at both ends, which makes contact with the side wheels 7. These wheels are driven from the main shaft by means of gear wheels and couplings. The gear 9, which rests on the roll 1 is also driven by this shaft, while the two mixing rolls are arranged in operating position in the usual manner by means of the gears 10 and 11. Within the drum 4 there are a number of scoops 12, which are arranged over the entire width of the drum. These push the rubber mixings which fall down between the mixing rolls into the rolls again.

Another example of a mixing roll of similar construction is seen in Figure 16. In this case not only is there a dust-proof cover over the mixing rolls, but an arrangement is provided whereby it is possible to carry out the mixing operation under any suitable pressure, and at times under a vacuum. The housing which remains stationary and which is made from a pressure-tight cylinder 1 and side walls which are screwed to the latter, in which there is also a piece for carrying the bearings of the rolls, is provided with openings 2 and 3 for loading and unloading the machine, which can be tightly closed by means of the covers 4 and 5. Windows 6 and 7 are provided for watching the progress of the mixing.

The mixing rolls 8 and 9 rotate within the interior of the casing, and these rolls are held in bearings which are carried by a special part of this housing. There is also another bearing piece on the opposite side of the machine, so that only the axle for the drive wheel is allowed to penetrate through the wall of the housing, the joint being closed by means of a suitable stuffing box. At the top of the cylinder 1 a container 10 is located, in which the rubber mixings are placed, and this container is provided with a feeding device. The latter is automatic and consists of a shaft 11, provided with blades, which rotates in a cylinder 12 located in the bottom of the holder 10, and the mixings are fed into the roll 8 and 9 through a slit 13 in the cylinder 1.

Shaft 11 is driven by means of a gear drive from one of the electric motors that are arranged in the housing of the machine. The container 10 can be closed by means of a cover in such a fashion that no air whatsoever can enter the apparatus, and this container is connected with a pump by means of the pipe 14. This pump is used to maintain whatever pressure is wanted in the interior of the mixing machine. The inner part of the cylinder 1 is also connected with the same pump, but regulating devices are also provided which make it possible to maintain one pressure within the container and a different one within the cylinder.

Two rings, 15, which are provided with teeth, are also furnished in the cylinder 1, and these rings are tied together with the aid of the rods 16 and they rest on the scoop 17. The gear wheels 18 mesh with the teeth of the rings, the gears being fastened to the shaft 19, which is rotated by the motor which drives the shaft 11. The rings 15 are guided by the rollers 20 which are spaced within a cylinder guide 21. The scoop 17 can rotate around the pivot 16, so that its motion inwards is limited by the trunnion 22.

When the cylinder is opened the rubber is first brought onto the heated rolls 8 and 9 in some suitable manner; then the cylinder is closed and the motor which drives the shaft 11 is set in motion, and at the same time the desired pressures are induced in the container 10 and in the cylinder 1. This may either be a vacuum or a pressure, as has been mentioned above. While the mixture is being fed to the mixing rolls through the rotation of the shaft 11, the rings 15 are set in rotation in the counter-clockwise direction. The scoops then gather up the rubber that has fallen between the rolls and raise it to the upper part of the machine, so that it again is fed to the rolls. In this manner all loss of mixings is avoided and the entire mixing process is carried out without manual labor.

Dunlop Makes Notable Progress

Leading British Rubber Manufacturer Makes Satisfactory Profit in 1925 and Buys New Companies to Round Out Line

IT IS NOT generally recognized how high a place the Dunlop Rubber Company, Ltd., of Birmingham, England, would occupy in a list of rubber companies which have made notable progress in recent years. The last memory in many minds is of Dunlop's taking a terrific loss during the deflation period following the war. Since that time, and without excessive publicity as to its accomplishments, the company has moved forward to an enviable position among the world's rubber manufacturers. Details of the latest steps in the advance were revealed at the annual meeting of the stockholders held in May.

Dunlop is the premier British rubber manufacturer. Fort Dunlop at the edge of Birmingham is known throughout the world, and there are other Dunlop-owned plants in various parts of England. However, the company has important investments outside Great Britain also. There are branch factories in France, Germany and the United States, and 47,000 acres of rubber in bearing in Malaya.

Under the leadership of Sir Eric Geddes who became chairman of the Dunlop board during the slump, 1925 was a highly profitable year for the company. Although a loss was taken on the American subsidiary, the gross profit was £3,207,611. After paying interest on debenture stock, a net profit of £2,746,230 remained. This was an increase of 85% over the net profit of 1924. The 1925 profit permitted a dividend of 15% on the ordinary stock and the transfer of £1,294,767 to a general reserve.

The progress of the British Dunlop company in Great Britain since 1922 has been notable. In that year approximately as many tires of American manufacture were sold in England and Scotland as all the British tire manufacturers sold. The fact that such a condition does not obtain today is largely due to the way in which Dunlop has gained ground in recent years.

In company with other European manufacturers, Dunlop was retarded during the war years in the development of its principal products. After the slump, Dunlop engineers and laboratories brought the tire of that name back to its old reputation for quality. Increased sales, particularly throughout Great Britain, were the immediate result, but these were accelerated also by an unusually vigorous advertising campaign. Full advantage was taken of the patriotic spirit of the British motorists who responded to the appeal to patronize home industry.

But the progress of the sales of goods bearing the Dunlop mark has been rapid outside Great Britain also. The Dunlop selling organization operates over practically the whole of Europe with the exception of France and Germany. Its business last year exceeded the "record" of 1924 by about 40 per cent, the increased turnover being accompanied by reduced selling expenses.

It may be added that the export business absorbs approximately one-third of the production of the Dunlop combine in Great Britain and that the increased export last year was not confined to a single portion of the world, countries as far distant as India and Brazil sharing in the larger trade.

France and Germany are covered by branch factories. In the former country, satisfactory progress was made in 1925. The addition of new equipment to the factory at Montlucon increased the output by 25 per cent over 1924.

According to the chairman, the German Dunlop Company worked at a good profit also and its turnover was more than doubled. The position in Germany is regarded as not altogether free from anxiety on account of the financial crisis in that country being reflected in a decreased demand for tires. Sir Eric Geddes feels, however, that Germany will soon recover from the financial stringency and the demand for tires will expand.

The American Dunlop plant was established at Buffalo about two years ago. In 1925 it incurred a loss, the exact amount of which was not revealed but was taken care of by the parent company. The chairman attributed the loss to the rapid growth of the company and "the impossibility of forecasting requirements to enable prudent advance purchases of rubber to be made, and the impossibility of refusing business, though unremunerative, when it was offered, merely because of the inability to provide the rubber for it at favorable prices."

The chairman, however, was of the opinion that the American company located at Buffalo is making satisfactory progress and mentioned that in 1925 the turnover increased by 250

The tire manufacturing plant of the Dunlop Rubber Co., at Fort Dunlop.

per cent on 1924 (when the concern was in its infancy) and that the production of tires was quadrupled and at one time almost equalled the output of the factory at Fort Dunlop. The American company stands in the books of the parent company at £3,926,693.

During 1925, the Dunlop Rubber Company increased its holdings in England through the acquisition of the business of Chas. Mackintosh & Company of Manchester and W. & A. Bates, Ltd., of Leicester. The former manufactures rubber goods of all sorts including tires, belting, rubber paving, insulated cables, hose and sundries. The Bates Company specializes on cycle tires and mechanical rubber goods.

The purchase of these two important manufacturing companies gives Dunlop an interest in all sections of the rubber goods trade. The emphasis at Fort Dunlop has always been on tires and tubes and golf balls. Other purchases in addition to the Mackintosh and Bates plants brought the Dunlop investments up to £14,849,000.

The Dunlop interests in rubber growing are extensive. A planted area of 47,426 acres will be bearing during this year and the planting of an additional 11,000 acres of land owned by the company has been begun. The rubber estates are valued at £2,342,000 or only £42,000 above the value fixed at the time of the reorganization of the company's capital, the increase representing additional expenditure. This valuation works out at only £50 per planted acre. The addition of 11,000 acres in Malaya is estimated to cost £500,000 or about $250 per acre, spread over a period of six years.

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Using Hard Rubber in Silk Dyeing

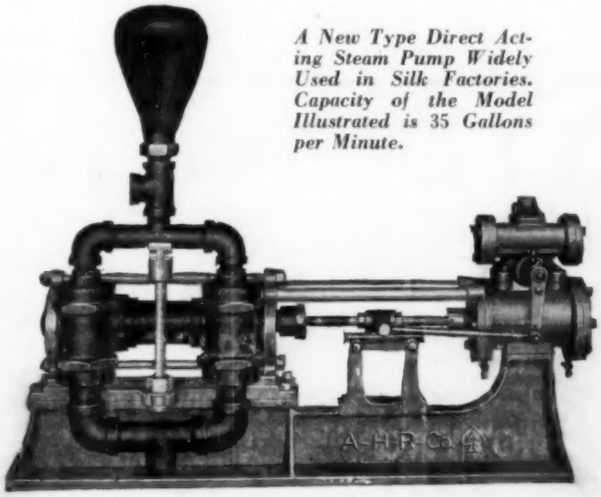
Substitution of Hard Rubber for Metals in Constructing Dyeing Equipment Ends Destruction By Corrosive Liquids

ALTHOUGH SILK is one of the most beautiful and delicate of common textiles, its preparation for the market necessitates the use of very highly corrosive liquids. Stannic chloride solutions (tin tetrachloride) which are commonly used for weighting are particularly bad to handle. The great losses encountered by silk dyers in having installations continually eaten away by corrosion led to a thorough examination of all materials from which equipment that would be suitable for this very exacting service might be constructed. No commercial metal was found which stannic chloride solutions would not promptly attack and the search was accordingly extended to non-metallic materials, including hard rubber.

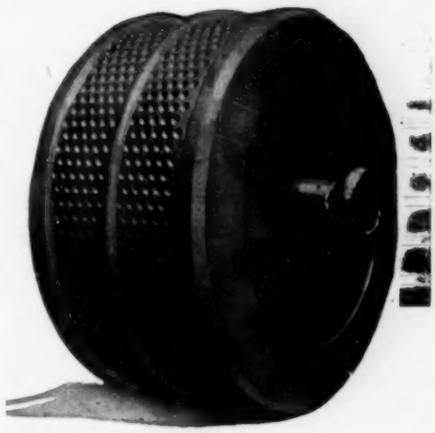
It was easily determined that hard rubber of certain grades would suitably resist the action of the corrosive liquids used in dyeing but since this material had not previously been employed for such a purpose, the problem of fabricating it into pumps, piping, tanks and other apparatus was a monumental task. All the experience and ingenuity of men experienced in the hard rubber industry was called upon and many discouraging obstacles marked the progress of their work. The result materialized in a non-metallic pump which was furnished to one of the largest dye houses of Paterson, New Jersey. The first hard rubber pump was of the double acting, direct connected steam type and although it was crudely constructed, it represented a step which was to prove of inestimable value to all users of corrosive liquids. The extension of this development was rapid and today the silk dyer is offered a line of units which can be combined to form a complete system for handling corrosives in which the solutions will touch only hard rubber.

A few general applications of hard rubber in silk finishing plants are outlined in the following paragraphs.

Pumps: The more recent "dynamiting" process of silk weighting requires the constant circulation of quantities of stannic chloride. The best hard rubber pumps for this purpose follow closely the most approved practice in metal pump design. All parts coming in contact with the solution are of special grade hard rubber and can be counted on to render permanently satisfactory and reliable service.



A New Type Direct Acting Steam Pump Widely Used in Silk Factories. Capacity of the Model Illustrated is 35 Gallons per Minute.



ABOVE—A large Centrifugal Extractor Basket Lined and Covered with Laminated Rubber Coating.

RIGHT—Hard Rubber Centrifugal Pump of the Vertical Type Used for Pumping Against the Low Pressures Used in Silk Weighting.

Pipe and Fittings: Between the pumps and the tanks, centrifuges and other equipment, hard rubber piping is necessary. Such piping is usually supplied in ten-foot lengths with cocks and all the usual fittings, and may be threaded to suit the requirements of the individual installation. The use of threaded joints throughout eliminates the necessity of having lengths made to order and avoids gaskets, packing, clamps or other foreign parts which require constant supervision and frequent replacement.

Tanks: For the storage, mixing, collecting and soaking tanks, steel units, rubber lined, have long been standard equipment. This type of construction produces an article of any desired shape and form with the strength of steel yet completely and permanently protected from corrosion. In the original covering process rubber sheet was vulcanized directly to the steel. Sometimes it adhered, but too often it would loosen, allowing the steel to be eaten away with no outside indication of trouble perceptible. Realizing the need for a more perfect lining, hard rubber engineers began experimenting. They found that a particular grade of soft rubber, properly applied, could be made to adhere to the steel with such tenacity that it was practically impossible to pull it off. Yet soft rubber will in time harden and crumble, this action being considerably accelerated by the presence of acid or heat.

Rubber-lined tanks are now made with a layer of soft rubber between the hard rubber and the steel. As the soft rubber is completely covered by the hard rubber, it

Article prepared from data supplied by American Hard Rubber Co., New York City.

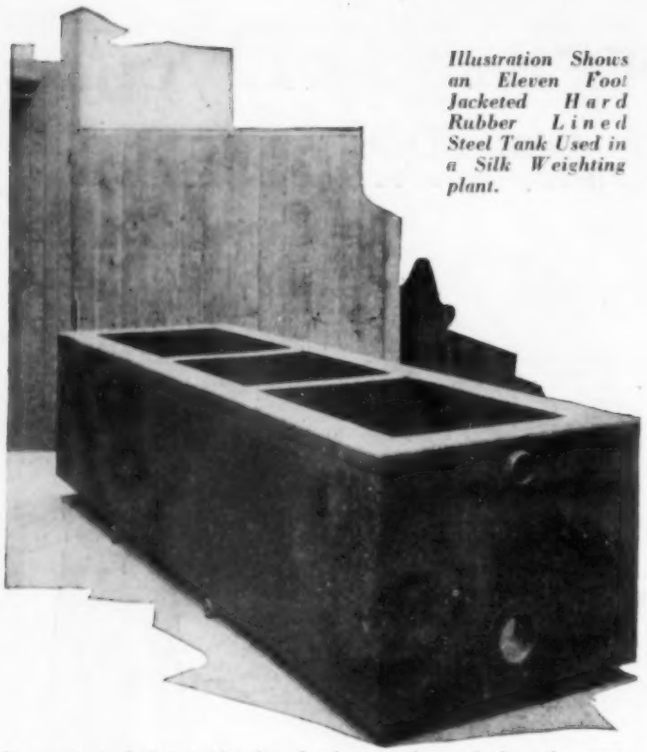


Illustration Shows an Eleven Foot Jacketed Hard Rubber Lined Steel Tank Used in a Silk Weighting plant.

is protected from the hardening action of the air, preventing any deterioration. In addition to creating a permanent bond between the acid resisting medium and its support, it acts as a shock absorbing element and further compensates for differences in expansion due to temperature changes. Tanks of this nature can be made either open or closed, with or without water jackets and of practically any size. Flanged or threaded connections for hard rubber pipe can be arranged as desired.

Centrifugal Linings: Many fatal accidents have been caused by the failure of centrifugal baskets operating at a high speed. Under heavy load there is bound to be considerable distortion. When a thick lining of hard rubber was applied directly to the metal it frequently cracked under this distortion and permitted the corrosive solution to attack the metal beneath. When the machine was stopped the edges of the crack sprung together and a careful inspection disclosed no flaw. In this way, the basket was weakened gradually until failure occurred due to the eaten away metal basket. An attempt to avoid this condition was made by using a lining of soft rubber but, as pointed out above, the coating hardened in time and the life of the basket was very short.

This is another place where the combination soft and hard rubber lining has proven of real value. The greatly increased flexibility of this coating takes up all distortion with a minimum of strain. In the extreme event of the hard rubber being cracked by a blow or through outside causes, the soft rubber cannot separate from the metal and will protect it until repairs are made.

One of the weakest points in basket covering has been the method of treating the holes. An important advance has been made in this detail which renders this point as strong as any other part of the basket.

Small Hard Rubber Utensils: For handling small quantities of corrosive liquids, hard rubber funnels, dippers, bottles and other utensils are convenient and popular. The hard rubber pail is extremely light and due to improved methods of construction, is practically unbreakable.

A recent addition to the list of hard rubber equipment for the silk finisher is the hard rubber covered dye stick. Bamboo dye sticks have been used almost entirely heretofore on account of their rigidity and lightness. A non-absorbent dye stick is made by giving a standard bamboo stick a thin covering of tough and highly flexible hard rubber. The increase in weight and size due to the coating is almost negligible while the rigidity is increased. The absorption of the dye by the unprotected bamboo necessitates a separate set of sticks for each color. The hard rubber coating prevents absorption altogether. The same stick may be used for a light shade, then washed and used for dark colors. The use of one set of sticks instead of many means a real saving in money invested and in addition eliminates the necessity for the large storage space formerly used.

The old fashioned bamboo dye sticks had the fault of splitting and the shaved joints were apt to catch and tear the silk. The surfaces of the hard rubber sticks are smooth and non-porous and will always remain so. They cannot split and they cannot injure the silk. Their life is practically indefinite as they are not subject to deterioration. The hard rubber covering is so tough that it will not break in ordinary use. Interesting tests of the strength of hard rubber dye sticks have been made. When such a stick was supported at the ends and a load applied in the center, a weight averaging 170 pounds was necessary to cause fracture and the bamboo gave way before the hard rubber. Hard rubber sticks have consistently shown an ability to withstand usage in the most difficult places, including the boiling-off vats.

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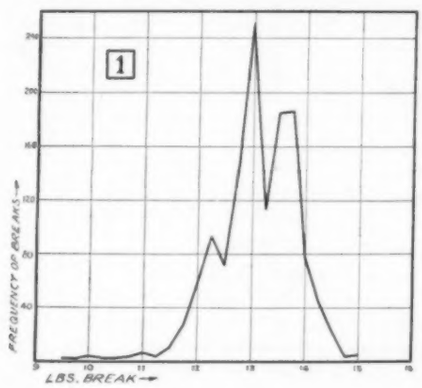
Testing Cord Fabric Variability

Breaking Cords Under Constant Conditions Establishes Frequency Polygons and Coefficients of Variability

By Joseph Rockoff

IT IS A well known fact that cord fabric as used in the manufacture of cord tires is subject to considerable variation as regards tensile strength. Not only does this variation occur from shipment to shipment, but from roll to roll in the same shipment, and even within a single roll considerable differences in tensile strength are apt to occur.

Any experiments,which tend to bring out the inherent variability in tensile strength, must be conducted under carefully defined conditions, especially as regards moisture content and temperature, since otherwise variations in moisture content will change the tensile values to such a degree that no true index of variability can be obtained. This is due to the effect of mechanically held moisture on the tensile strength. This mechanically held moisture depends on the relative humidity and temperature of the surrounding atmosphere. It varies usually between the limits 3.5 and 6.5 per cent. For every one per cent increase in moisture between these limits, there is an approximate increase in tensile strength of six per cent.



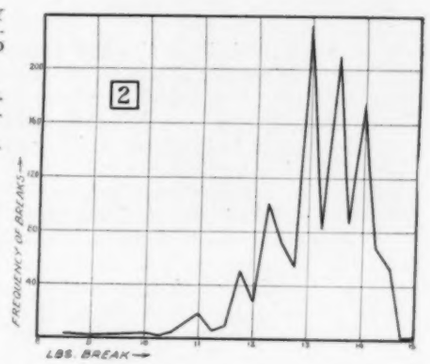
FREQUENCY BREAK POLYGON-23'S/5/3 KARDED PEELER
Arithmetical Mean ..13.07 lbs.
Mode ....13.00 lbs.
Standard Deviation .781 lbs.
Coefficient of Variability .059

In the testing of cord fabric there appears to be no general agreement as to the conditions of test. Some investigators use the bone dry method; others break their cords at some specified humidity and temperature; still others conduct their tests at the prevailing laboratory conditions and correct the average tensile strength to some pre-determined moisture content according to the formula of the American Society of Testing Materials appearing on page 42 of the 1925 A.S.T.M. Specifications and Methods of Tests for Textile Materials.

In testing the tensile variation of cord fabric, it would appear that the first two methods are more rational than the third, especially where a large number of breaks are desired. Of the first two methods mentioned above, the bone dry method is preferable. In testing for variability it is important to use the same machine and preferably the same operator thruout the series of tests. Such a procedure was followed in the several examples to be quoted below.

Method for Determining Variability

If a sufficient number of cords are broken under constant conditions, it will be found that when the frequency of breaks is plotted against pounds break, a frequency polygon is obtained. Since these variations are integral in character, they may be treated statistically and the standard deviation and coefficient of variability calculated. In the following brief sketch the constants and formulae used are,



FREQUENCY BREAK POLYGON-23'S/5/3 KARDED PEELER
Arithmetical Mean ..13.13 lbs.
Mode ...13.00 lbs.
Standard Deviation .8391 lbs.
Coefficient of Variability .063

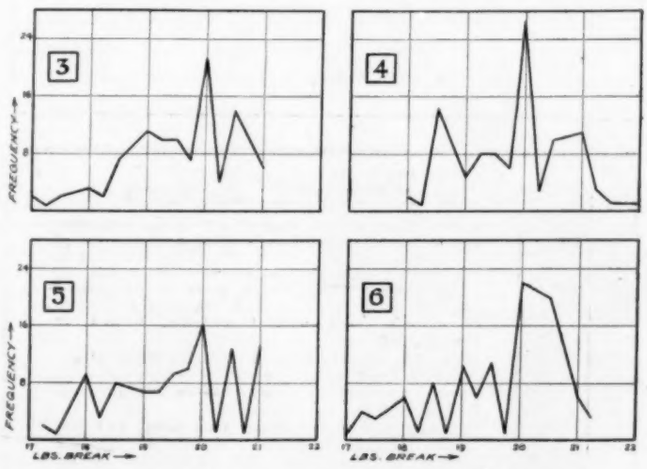
I. Standard Deviation $= \sqrt{\frac{E\,(K^2 \times F)}{N}}$

II. Coefficient of Variability $= \frac{\text{Standard Deviation}}{\text{Arithmetical Mean.}}$

Where E=sum
K=deviation of the class from arithmetical mean
F=number in the class
N=total number.

Figure I represents a frequency break polygon, which includes every end of an entire roll of cord fabric. This roll was made up of 23's/5/3 cable cord. The staple was approximately 1-1/16". This roll contained approximately 1300 ends which were broken under bone

[*Continued on Page* 356]



FREQUENCY POLYGONS OF 23'S/5/3 COMBED EGYPTIAN CORD

	Fig. 3	Fig. 4	Fig. 5	Fig. 6
Arithmetical Mean	19.55	19.8	19.57	19.44
Mode	20.00	20.00	20.00	20.00
Standard Deviation	.816	.8678	.986	1.065
Coeff. of Variability	.041	.043	.05	.054

Better Tires and Less Abuse Help Lower Rubber Consumption

Two factors not always considered, as they should be, in connection with the decreased use of rubber in the United States during the current year are the more efficient use being made of the balloon tire and the accelerated abandonment of the fabric easing. In the minds of many people, "conservation" has come to mean a determination not to buy replacements even when they are needed. True conservation, however, means the accomplishment of a saving through better care or changed practice. The American motoring public has been obsrving more of the latter kind than it has been given credit for.

Soon after the balloon tire had come into common use, the public became convinced that it was a shorter-lived, more vulnerable tire than the high pressure tire it was replacing. Nevertheless, they accepted it and chalked up an increase in the ultimate cost to the greater riding comfort which it would give. To a large extent the opinion of the motorists at that time was right, for two good reasons. The first was that manufacturers still had much to learn about balloon tire construction. The other was that the public had still to learn how to use them.

Early advertising and discussion of the balloon tires almost placed them in the freak class. It was made known, for instance, that these remarkable tires would run over curbstones or railroad tracks without injury. As for inflation, the public rightfully gained the notion that only a few pounds were needed in the new low pressure tires. Some manufacturers made it known that they had trouble getting users of their tires to lower inflation pressures sufficiently to take advantage of their easy riding qualities. Abuse and misuse of the new equipment throughout the country naturally followed.

Today the situation is greatly changed. Manufacturers have gotten away from the faults of the early balloon tires, particularly the too light construction which was achieved in the effort to make the most flexible tire possible. Other important changes, many of them relating to the fabrics, have also been made. The result is that the balloon tires of today are giving considerably longer service than they were able to give eighteen months or a year ago. Some manufacturers insist that they are giving greater average mileage than the high pressure tires which they displaced; one estimate is that an extra twenty per cent is being obtained from balloons. While the latter estimate is perhaps too high, there is no question that given fair usage the balloon tire of today will equal or slightly excel in service the old high pressure tire.

While the manufacturers were making changes in the tire itself, the public was revamping its ideas of how the tire should be used. The abuse was gotten away from, partly because the novelty of the new equipment wore away and partly because the results of it were too apparent. In the matter of inflation, the public learned that the maintenance of a definite pressure was just as necessary in balloons as in the old tires. More accurate and uniform inflation tables began to appear and the motorists began to observe them. The Rubber Association of America joined in the educational campaign, trying especially to get to the new car buyer full instructions as to how balloon tires should be cared for.

In the matter of fabric tires, their abandonment has been speeded up in a rather remarkable way during the last year. Fewer fabric tires have of course been used for original equipment as the balloon tire was more widely demanded, but the replacement demand for them has fallen away also. The economy of cord equipment is receiving final recognition.

The extent to which these two factors are contributing to the lessened demand for rubber in the present year is naturally unknown but no student of the situation can believe that they are unimportant. Likewise, their effect may be expected to continue and increase for competition will continue to encourage improvement in balloon tire construction and economy will stimulate precautions in their use, especially when high priced crude rubber keeps the prices of tires at high levels.

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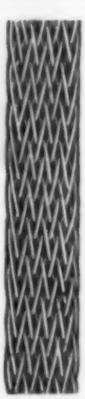

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Vulcanization and Accelerators

Part II (Continued)

Natural and Mineral Accelerators

Influence of Vulcanization Temperature on the Quality of the Finished Product—Result of an Increase in Percentage of Sulphur—Degree to Which Ammonium Salts Accelerate Vulcanization.

By Andre Dubosc

[EDITOR'S NOTE—*In the previous installment of Mr. Dubosc's series, he describes the tests of Bourne and Kratz in which it was observed that while increasing the temperature it was possible to diminish in an appreciable manner the time required for vulcanization without altering in any way the qualities of the product being manufactured. Other tests by Kratz showed that as the pressure increased the greater was the rate at which vulcanization took place.*]

ACCORDING TO Pechlet, the amount of heat transmitted per square foot per hour through sheets of metal one inch thick for a difference in temperature amounting to one degree C is for copper 515 calories, for iron 233 calories and for rubber 1.37 calories. In the case of a mold made from cast iron, accordingly, the heat that transmitted through the metal and through the rubber is in the ratio of 233 to 1.37, which means that heat will travel through the iron mold 170 times as fast as through the rubber.

Properties of the Vulcanized Rubber

The different samples which were vulcanized under different pressures possess not only the same physical properties and characteristics, but are affected in the same manner when subjected to the influence of light, air, and time. When they are subjected for four months to the action of heat and sunlight, they do not suffer any marked changes, and as far as can be seen the temperature at which vulcanization is effected does not have any great influence on the quality of the vulcanized product.

From these experiments the conclusion seems to arise that within certain reasonable limits the temperature to which the rubber is subjected in vulcanizing does not affect its quality in any practical manner, and as the elevation in the temperature accelerates vulcanization, it is possible to consider the Kratz process as being perfectly applicable to this industry.

The influence of the variation of the properties of sulphur employed in the various mixtures used in vulcanizing experiments and practice, is also manifested by a variation in the rate of vulcanization. In this is found a trick of manufacture which has been applied in a practical manner ever since the beginning of the rubber industry.

This action of mass has been studied most particularly by Skellon and the results of the various experiments and investigations that he made on this interesting matter are contained in the following tabulation:—

Proportion of sulphur	3%	5%	10%	20%	30%	40%	50%
Time of Vulcanization at 140 degress C.	Combined Sulphur						
Thirty minutes	0.36	0.44	0.63	0.79	0.55	0.51	0.48
One hour	0.46	0.53	1.07	1.05	0.95	0.83	0.76
Two and one half hours	0.70	1.02	1.65	1.64	1.47	1.32	1.15
Three hours	1.42	2.06	3.35	4.07	3.58	3.14	2.81
Six hours	1.42	2.88	6.18	11.33	11.62	10.93	10.22
Nine hours	1.42	2.88	8.76	17.32	24.10	25.50	25.0

In accordance with the experiments made on this matter by Fol and Van Hern for a vulcanization of one and one half hours under a pressure of 50 pounds, it is found, while modifying the proportion of sulphur in the rubber mixture from two to 20 per cent, that the variations in the proportion of combined sulphur is much more important than has been indicated by Skellon. This can be seen from the following tabulation:—

Sulphur Per Cent	Sulphur Combined	Breaking weight per square centimeter, kgs.	Elongation in per cent
2	1.30	27	408
4	2.20	27	908
6	3.20	67	908
8	4.90	84	721
10	5.60	56	633
12.5	5.46	57	531
15	6.33	23	298
17.5	6.70	25	283
20	7.53	62 (!)	484

From the standpoint of the coefficient of vulcanization, the curve showing the increase in this factor, in comparison with the proportion of the sulphur employed in the mixtures, would seem to be sensibly an oblique one. The increase in the proportion of the sulphur used determines the regular increase in the coefficient of vulcanization. Up to within a certain definite percentage of sulphur, namely, eight per cent, the physical constants of the vulcanized product are improved. When the percentage of sulphur is increased beyond that point, the physical constants of the vulcanized rubber become rapidly worse and the mixture tends to become over-vulcanized.

The role played by the fillers in vulcanization is of considerable significance, and from the standpoint of certain substances which remain inactive, as for example the greatest number of mineral salts, the sulphate of barium, the sulphate of lime, the sulphate of lead, and others, such as the oxides and the sulphides, has a very considerable effect on the vulcanization of the rubber.

The action of some fillers and weighting materials, such as the oxides of lead, magnesium, calcium and the alkaline oxides, is such that it is possible to list them in the category of *true mineral accelerators.*

The Chemical Point of View

From the chemical point of view, if it is indeed desired to apply this to the theory of vulcanization, this action is easily understandable. The oxides act on the sulphur and change it to sulphides and polysulphides. This results in the formation of sulphurous acid, which react in turn on sulphuretted hydrogen derived from the action of the resins on the metalloid. The final result is the production of a colloidal sulphur, which is the active principal in vulcanization.

This phenomenon takes place at a speed which is much greater than that of the formation of sulphur. It is, moreover, a phenomenon which explains the part played by litharge during the course of the vulcanization reactions.

Certain alkaline substances, such as ammonia, show a particular classification. This substance, constituted indeed the first member of the amine bases and in accordance with what we know, it must act as an accelerator to a certain degree.

The use of ammonia to increase the rate of vulcanization has been patented by Geoffrey and Delere since 1903.

All the salts of ammonia, which are dissociable at the temperatures at which vulcanization ensues, exhibit that same property and the following table, which has been prepared by Van Hern, gives a very accurate idea of the degree to which these substances are able to accelerate vulcanization. The substances contained in this tabulation were employed at a proportion of one per cent, in mixtures formed of 92.5 parts of rubber, 7.5 parts of sulphur; and the vulcanization of these samples lasted for one and one half hours at a temperature of 147° C. The coefficients of vulcanization obtained under these conditions are indicated in the following table:

SALTS EMPLOYED	COEFFICIENT OF VULCANIZATION
Ammonium carbonate	3.16
Ammonium phosphate	5.20
Ammonium sulphate	4.29
Ammonium oxalate	3.34
Ammonium chloride	3.12
Ammonium borate	2.87
Ammonium nitrate	2.65

The accelerating value, stands in a direct relation to the coefficient of dissociation of these substances. Thus, for example, carbonate of ammonia, which has a low temperature of dissociation, namely 60° C, is an excellent accelerator. On the other hand, ammonium perborate acts as a retarder.

According to Seeligmenn, ammonia possesses the ability to unite directly with the rubber molecule. If a quantity of the rubber is treated in a sealed tube with 10 times its weight of ammonia of 22 degrees B. concentration, and when the apparatus is heated for a period of 48 hours at 100° C, the rubber is dissolved. As a result, a sort of an emulsion is formed, which possesses all the identical characteristics of a rubber latex. This solution, on spontaneous evaporation, leaves a rubber of a high degree of purity and possessing a slightly alkaline reaction. This rubber is also found to vulcanize at a high rate of speed.

Muspratt assumes that soda and potash act in a similar manner under certain conditions. Rubber will dissolve in heated solutions of these alkalies with great ease when the rubber has first been subjected to thorough maceration. These statements have been contested by the scientist Ure.

It seems that for a great variety of reasons oxides have been employed in the process when the rubber itself has been used.

Use of Oxides

Fresneau, Berniourd and others used lime since the 18th century. In 1835 Goodyear used magnesia in order to prevent the decomposition of rubber under the influence of heat, and in January, 1834, it patented the use of the oxides of lead in the vulcanization of rubber.

Various hypotheses have been evolved for the purpose of explaining the accelerating action of mineral oxides on the vulcanization of rubber. Some of these hypotheses, which must be added to the one that has been discussed in this treatise, are of some value but for the most part they possess but little to recommend them. The theory of the formation of sulphides, then of polysulphides, which, when they dissociate, yield an active sulphur, is not very tenable, with the exception of the case of pentasulphide of antimony for these sulphides, when used alone, are less energetic as accelerators of vulcanization than the oxides from which they are derived.

The Case of Litharge

In the case of litharge the action of this substance in accelerating the vulcanization of rubber is attributed as much to the fact that it makes the rubber mixture a better conductor of heat,—for rubber is known to have a very low thermal conductivity,—as to the heat that it sets free in being changed first into the sulphide and then into the sulphate. And its action may also be attributed in part to the oxidizing effect that it has on the resinous matters that are present in the rubber.

The liberation of heat which results from the successive transformation of the oxides into sulphides and thence into sulphates must without doubt have some action on the speed of vulcanization, for it has been demonstrated that any change in temperature has an effect on the rate at which rubber vulcanizes. But then again the effectiveness of this action cannot be proportional to the amount of heat that is liberated.

There is given below in tabular form the different quantities of heat in calories that are liberated in the two reactions for the principal oxides that must be considered in this connection.

LIBERATION OF HEAT IN THE TRANSFORMATION OF THE OXIDES TO THE SULPHIDES.			
Potassium sulphide—	plus	58	calories.
Sodium sulphide—	plus	42	calories.
Magnesium sulphide—	plus	42.2	calories.
Copper sulphide—	plus	23.4	calories.
Lead sulphide—	plus	21.4	calories.
Calcium sulphide—	plus	13	calories.
Zinc sulphide—	minus	10.6	calories.

LIBERATION OF HEAT IN THE TRANSFORMATION OF THE OXIDES INTO SULPHATES.			
Potassium sulphate—	plus	153	calories.
Sodium sulphate—	plus	134.2	calories.
Magnesium sulphate—	plus	119.2	calories.
Calcium sulphate—	plus	97.2	calories.
Lead sulphate—	plus	72.2	calories.
Manganese sulphate—	plus	51.2	calories.
Zinc sulphate—	plus	49.8	calories.
Copper sulphate—	plus	48.2	calories.

The quantity of heat in calories that is liberated in the formation of the various sulphates corresponds sensibly to the accelerating capacity of the different oxides. This seems to indicate that there does really exist a relationship between the number of calories of heat that are liberated in the formation of sulphates from the oxides of these metals and the acceleration of the rate of vulcanization which is effected by their presence. The order in which the various oxides may be arranged as far as their vulcanization acceleration capacity is concerned is as follows:—First, potash; second, soda; third, magnesia; fourth, lime; fifth, oxide of lead; sixth, oxide of manganese; and seventh, oxide of zinc. It will now be necessary to examine each of these in regular order.

Potash and Soda

These two alkalies must be given special consideration. When they are employed in the low proportion of half of one per cent, they act as energetic vitalyzing accelerators of vulcanization. When their proportion in the rubber mixture, figured on the weight of the rubber present, reaches three per cent, their action is reversed, and they become retarders of vulcanization. Finally when they are present in the rubber mixture in the proportion of five per cent they make vulcanization of rubber impossible.

If reference is had to the investigation that Dittmar made on this subject and published in the year 1914, it will be found that Martin is said to have been the first to recognize the possibility of using potash and soda in small amount in the rubber mixture, for the purpose of accelerating its vulcanization, and to study the peculiar manner in which these substances acted.

However, at that time all the industrial technologists, who were in the habit of using rubbers which had been recovered with the aid of alkalies by the Mark process, knew for quite a long while past that the rubbers, which contained a very small amount of sodium carbonate which even prolonged washing could not remove from the gum, vulcanized at a very high rate of speed.

Eaton remarked in the year 1916 that the addition of a small proportion of soda or potash to the rubber at the time that it was being creped had a very favorable effect on the speed with which it subsequently vulcanized. But in accordance with the investigations and studies which were made by Clayton, Beadle and Stevens on this subject, it was concluded that the presence of alkali in the rubber gum had the effect of producing rapid deterioration of the vulcanized rubber articles.

[To Be Continued]

When You Need Books—

Consult the Book Department of THE RUBBER AGE. Whether it's a rubber book you are seeking—or a book on any other subject, we can get it for you.

Turn to Page 368.

Watching the News

ONE THING resulting from the Congressional investigations of last January, which started with rubber but eventually covered a large number of "monopolized" raw materials, has been the passage of a bill to determine the location, extent and mode of occurrence of potash deposits in the United States. It was develed that there were potash beds in Texas and Representative Rayburn of that state has been successful in his movement to have them examined with a view to saving a large part of the sum now paid annually to the Franco-German potash syndicate. Just before Congress adjourned, President Coolidge added $100,000 to the deficiency bill to finance the examination of the resources in Texas and elsewhere in the United States. It was three years ago last March that Congress granted five times as much for the raw materials surveys, the major portion of that amount being ultimately spent on rubber. The results exist only in the form of a series of printed reports. We shall have to wait to see if the results are any different in the case of potash.

JUST AS tea and spice culture were abandoned to a large extent some years ago in Ceylon and the East Indies in favor of the higher-priced rubber, so may hemp in the Philippine Islands find itself being pushed aside. Hemp growers throughout Southern Luzon, discouraged at the low price commanded by their product in the world's markets, are said to be planning to turn several thousand acres of their richest lands to rubber cultivation. Meanwhile, there are many applications being made for new farms but those applying intend to extend the rubber, rather than the hemp, acreage.

IN A VERY interesting series of articles on the economic problems facing the British Empire, the Trade and Engineering Supplement of the *London Times* has dealt very lucidly with the future of the rubber industry.

The paper observes that the recent squeeze in the rubber market, which may be repeated if a comparatively slight increase in consumption occurs in the next year or two, has aroused the United States to a realization of the inconvenience of dependence on foreign supplies outside its own control, "a lesson which Britain was beginning to learn before the war as the result of its equally complete dependence upon the American cotton grower.

"The lesson", continues the *Times*, "was driven home during the war. But as we are endeavoring, by the development of Empire cotton growing, to free ourselves of this dependence on a foreign source we cannot grumble if the United States attempts to follow our example in the case of rubber. Whether the efforts that are being made in Liberia and elsewhere will succeed remains for the future to reveal, but for some years at any rate we shall continue to occupy a very favorable position as rubber producers provided that no serious setback to American internal prosperity occurs. It is essential that we should utilize the interval before any large output of rubber from American controlled plantations can be expected to affect the market, to organize our own plantation industry on a basis that will enable it to compete profitably with any rivals. We have had a long start and if we fail to make full use of the advantages which this confers, we shall only be able to blame ourselves when difficulties arise."

A NOVELTY was introduced this year into the celebration of Alexandra Day, or "Rose Day", in Great Britain. Usually thousands of artificial roses made of cloth are sold in memory of Queen Alexandra, the proceeds being devoted to certain hospitals in which she was interested. But this time, rubber roses were on sale at many places in London. They were donated by the British Rubber Growers' Association. Not long ago the same organization almost fooled Princess Marie Louise with a basket of rubber roses that looked exactly like the real thing. A correspondent says he asked an American rubber man in London if he had gotten his rubber flower yet. "Not yet", said the American, "they don't pin the next rubber flower on us until July 31."

THE OLD JOKE about the ancient reading matter offered clients waiting in the offices of dentists and doctors will soon be obsolete if the tire dealers of one company take seriously the advice of its advertising manager about the distribution of the sales promotion magazine provided by the company. "Make the magazine work for you in the offices of doctors and dentists, in the barber shops and clubrooms of your city", he advises. "This gives multiplied circulation because each copy of the magazine will then reach hundreds of people when their minds are free and open for new impressions." Admittedly, the dental patient is in line for a new impression but he will likely be surprised if he gets the most lasting one out of a tire magazine in the waiting room.

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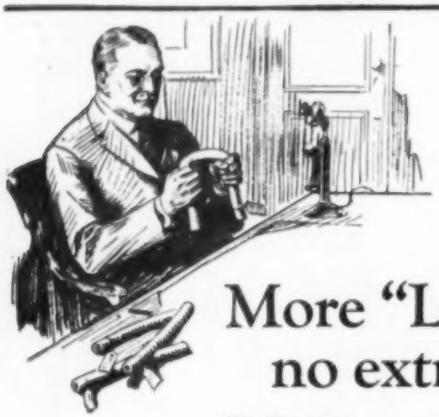

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Vulcanization Accelerators

DU PONT

TECHNICAL ABSTRACTS

Rubber Containing Cork

French Patent No. 590,871.

Powdered cork, after prolonged digestion with five per cent sodium carbonate solution, is dried, impregnated with a 10% rubber solution, and mixed with a stronger rubber solution. After addition of sulphur, the mass is molded into shape and vulcanized. The result is a light, uniform product which is suitable for the manufacture of tires and electrical insulators and other rubber merchandise.

Preventing Deterioration of Rubber

British Patent No. 221,788.

The deterioration of vulcanized rubber during storage is prevented or counteracted by treatment with a mixture of glycerine and benzaldehyde. A suitable mixture is prepared by adding a mixture of glycerine (172 grams), benzaldehyde (34 grams), and talcum (1300 grams) to a hot solution of rubber (60 grams) in paraffine oil (600 grams) which has been heated for 24 hours at a temperature of 140° C; phenylhydrazine (28 grams) or glucose (20 grams) may also be introduced. The intimate mixture is then stirred at a temperature of 180° C for a period of two hours. The cold mixture is applied with a hard brush.

Treating Rubber Latex

British Patent No. 235,888

A thickened and stabilized latex for spreading, dipping and molding purposes is obtained by adding to latex a thickening agent which also has a coagulating action, and then neutralizing the latter effect with an anti-coagulant. For example, the thickening agent may be sodium or potassium silicate, which by hydrolysis forms alkali hydroxide and acts as a coagulant. Ammonia or a substituted ammonia is therefore added to prevent hydrolysis and to preserve the latex from coagulation. A suitable composition consists of 100 parts of rubber latex, 100 parts of whiting, 300 parts of ground flint, 25 parts of zinc oxide, 85 parts of water, 100 parts of sodium silicate, 15 parts of ammonium hydroxide, 30 parts of sulphur and two and one-half parts of tetramethylthiuram disulphide.

Testing Cord Fabric Variability

[*Continued from Page* 351]

dry conditions. The standard deviation is found to be .8391 pounds and the coefficient of variability equals .063. The real significance of these constants becomes apparent only when compared with some constants of other 23's/5/3 cord, tested under the same conditions. In this case no attempt has been made to "iron out" the curve.

Figure II represents the frequency polygon of a roll of cord, identical in construction to I, only made up at a different mill. This fabric is slightly more uniform than the proceeding example. The mean value for tensile is higher while the mode is the same.

Figures III, IV, V and VI show the frequency polygons of four samples of 23's/5/3 combed Egyptian cord, each of the same construction but from a different source. These samples were tested at a relative humidity of 65 per cent and at a temperature of 70° F. In this case the coefficient varies from .041 to .054. This corresponds to average uniformity.

A large amount of data is still needed before any general conclusion can be drawn. It seems quite probable also that the coefficient varies with the moisture content.

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

THE GASOLINE consumption table on the next page, to which figures for May have been added, provides an interesting index to the extent to which the country's automobiles are being used. It will be seen that the consumption has been higher in every month of the present year than in the corresponding month of 1925. In the case of May, the increase was more than 16 per cent. When these figures are used with automotive registration figures to establish a rate of consumption per car, they give a complete picture as to the seasonal demand for gasoline and the degree to which any month or season is normal from a motoring standpoint. For instance, during the past months of 1926, the increased use of gasoline shows that the cars have been running in spite of the unseasonable weather and the slack demand for tires. This seeming disparity can be explained by many factors, two prominent ones of which are suggested in an article on page 352.

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1920

Year	Cents	Year	Cents	Years	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23		

Average Monthly Price per Pound since 1921

Months	1921 Cents	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents
Jan.	19.18	18.82	32.73	25.86	36.71	79.50
Feb.	17.96	16.12	35.14	25.29	36.01	62.25
Mar.	17.05	14.53	34.21	22.83	41.00	59.00
Apr.	16.73	15.99	32.48	22.51	43.64	51.25
May	15.82	15.25	27.39	19.89	58.47	47.75
June	12.49	15.11	26.88	18.81	77.26	42.50
July	14.01	14.67	26.10	22.16	103.16	
Aug.	14.04	13.93	28.84	26.17	82.99	
Sept.	14.53	14.44	28.95	27.56	88.88	
Oct.	16.02	19.78	26.93	31.13	98.01	
Nov.	18.06	23.88	27.14	34.33	104.80	
Dec.	20.47	27.42	26.60	37.88	98.51	
Average for Year	16.36	17.50	29.45	26.20	72 46	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fourth Restriction Year—Third Quarter

Day	May	June	July	Day	May	June	July
1	24	20½	20¼	16	——	20¾	20¼
2	——	19¾	20¼	17	22½	20¾	
3	23½	20¼	20¼	18	21¾	20¾	
4	24¾	20½	——	19	22½	20¼	
5	24½	20½	20¼	20	22¼	——	
6	23¼	——	20¼	21	22	20½	
7	22½	20	20¼	22	——	20¾	
8	——	20¼	20½	23	——	20½	
9	——	20½	20½	24	——	20¼	
10	23½	20¼	20⅝	25	21	20¼	
11	23¼	20½	——	26	20¾	20¼	
12	23¾	20¾	20⅝	27	20¾	——	
13	28	——	20½	28	20¾	20	
14	22¾	20½	20¼	29	——	20¼	
15	——	20½	20¼	30	——	20¼	
				31	20½	——	

(The average price for the period for which daily prices are reported above is approximately 21.19 pence. The British Colonial Secretary has announced that only 80% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26
Nov-Jan	14 285	14.175	17.9983	46.709
Feb-Apr	16.858	12.917	19.356	28.103
May-July	14.242	10.974	38.469	
Aug-Oct	14.944	14.632	43.269	

U. S. Imports and Exports of Crude Rubber.

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1900	22,026	$28,577,789	57.92	1,718	$2,839,668	73.77	20,308
1901	24,617	28,120,218	51.00	1,663	2,425,727	65.11	22,954
1902	22,702	25,158,591	49.47	1,457	1,877,698	57.52	21,245
1903	24,886	35,152,642	63.06	1,646	2,598,416	70.47	23,240
1904	27,629	43,784,297	70.75	1,540	2,749,234	79.70	26,089
1905	28,637	48,517,906	75.63	1,616	3,149,989	87.00	27,021
1906	30,316	53,391,137	78.62	1,676	3,153,775	84.02	28,640
1907	30,649	49,813,361	72.56	1,832	3,509,902	85.55	28,817
1908	34,058	44,696,526	58.59	1,655	2,466,428	66.52	32,403
1909	41,950	79,264,817	84.35	2,161	4,233,921	87.46	39,789
1910	40,241	98,007,295	108.73	2,749	8,134,064	132.07	37,494
1911	36,987	74,410,550	89.81	2,523	4,977,174	88.07	34,464
1912	52,705	99,567,071	84.34	2,456	4,692,262	85.31	50,249
1913	51,732	76,820,739	66.29	1,881	3,396,429	80.62	49,851
1914	63,868	70,472,704	49.26	2,618	3,244,346	55.32	61,250
1915	98,876	111,031,144	50.13	2,082	2,357,350	50.54	96,794
1916	120,576	159,745,475	59.15	4,098	5,330,100	58.07	116,478
1917	181,089	233,220,904	57.49	4,000	5,305,289	59.21	117,089
1918	145,518	146,378,313	44.91	2,746	3,133,622	50.95	142,772
1919	239,259	215,820,113	40.27	2,282	2,205,629	43.15	236,977
1920	252,922	242,795,773	42.86	4,160	2,846,898	30.55	248,762
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	32.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,117
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.48	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,526,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.	34,544	48,742,539	62.99	1,128	1,605,093	63.58	33,416
May	29,756	36,896,080	55.35	1,052	1,558,987	66.17	28,704
June							
July							
Aug.							
Sept.							
Oct.							
Nov.							
Dec.							

United States Tire and Tube Statistics[1]

Production, Sales, and Inventories[2]

AUTOMOBILE CASINGS

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	2,740	4,170	4,294	4,740	4,721	2,194	4,114	3,785	4,013	2,974	5,566	6,261	6,411	7,949	9,947
Feb.	2,779	4,291	4,372	4,908	4,865	2,144	3,568	3,849	3,924	3,436	6,255	6,966	7,020	8,928	11,164
Mar.	3,528	5,154	4,570	5,276	5,456	2,847	4,570	3,988	4,657	4,561	6,911	7,561	7,684	9,510	12,004
Apr.	3,202	4,719	4,410	5,341	5,346	2,853	4,106	4,018	5,498	4,980	7,286	8,118	8,219	9,088	12,461
May	3,629	4,880	4,051	5,467	5,023	3,608	3,793	3,693	5,954	5,211	7,364	9,209	8,442	8,611	12,343
June	3,785	3,943	3,506	5,418		4,281	3,448	3,671	6,737		6,723	9,387	8,207	7,243	
July	3,302	2,657	3,403	5,587		3,678	3,463	4,748	6,298		6,445	8,628	6,851	6,421	
Aug.	3,874	3,141	4,313	5,607		4,153	3,803	5,010	4,760		6,173	8,078	5,969	7,261	
Sept.	3,340	2,706	4,708	5,007		3,407	3,563	4,539	4,569		6,149	7,197	6,033	7,681	
Oct.	3,566	3,148	5,169	4,505		3,534	3,821	4,196	5,580		6,244	6,502	7,118	6,670	
Nov.	3,644	3,200	4,253	4,229		3,248	3,408	4,480	3,671		6,620	6,252	6,943	6,955	
Dec.	3,543	3,250	4,584	4,760		4,040	3,547	4,143	3,601		6,132	5,772	7,427	8,142	
	40,932	45,259	51,633	60,845		39,987	45,204	50,120	59,262						

AUTOMOBILE INNER TUBES

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	3,125	5,269	5,184	6,343	6,809	2,552	5,091	4,723	5,576	3,723	6,996	7,784	8,960	11,570	14,[illegible]
Feb.	3,462	5,386	5,424	6,339	6,825	2,310	4,085	4,530	4,971	3,736	8,189	9,029	9,786	13,023	17,[illegible]
Mar.	4,023	6,501	5,625	7,000	7,030	2,848	5,214	4,667	5,711	4,987	9,321	10,321	10,877	14,236	19,131
Apr.	3,534	5,679	5,380	6,851	6,554	3,162	4,825	4,782	6,704	5,051	9,640	11,192	11,503	13,618	20,674
May	3,961	5,757	4,992	6,846	6,149	3,995	4,651	4,865	8,040	6,304	9,586	12,390	11,682	12,501	21,141
June	4,174	4,787	4,658	6,942		5,391	4,882	5,286	9,032		8,249	11,899	10,888	10,409	
July	4,091	3,500	5,143	7,544		4,905	5,374	7,190	9,140		7,568	9,862	8,845	8,635	
Aug.	5,078	4,771	6,688	7,618		5,733	5,800	7,493	6,923		6,943	9,267	7,678	9,271	
Sept.	4,669	4,339	7,342	7,254		4,797	4,966	6,908	6,665		6,886	8,610	8,052	9,950	
Oct.	5,050	5,140	7,861	6,612		4,618	4,848	5,700	7,845		7,317	9,198	9,803	8,726	
Nov.	5,135	4,602	6,136	6,266		4,165	4,604	6,332	5,406		8,280	8,925	10,224	9,491	
Dec.	4,548	4,385	6,273	6,999		5,197	4,732	5,540	4,991		7,643	8,425	11,052	11,313	
	50,850	60,116	70,706	82,614		49,673	59,072	68,016	81,004						

(1) *Statistics of The Rubber Association of America, raised to 100%.* (2) *All figures expressed in thousands.*

Stock of Crude Rubber in United States and London

(All Quantities in Long Tons)

UNITED STATES

At End of	ON HAND			AFLOAT			ON HAND AND AFLOAT		
	1924	1925	1926	1924	1925	1926	1924	1925	1926
Jan.	——	60,870	55,198	——	36,759	46,296	——	97,629	100,434
Feb.	——	54,109	58,035	——	41,475	46,935	——	95,584	104,970
Mar.	——	52,494	61,822	——	40,577	43,567	——	93,071	105,389
Apr.	——	50,143	55,261	——	53,465	41,905	——	103,608	97,166
May	——	52,064	64,360	——	46,846	40,303	——	98,910	104,663
June	——	50,997	60,460	——	51,202	40,907	——	102,199	101,367
July	——	46,245		——	46,003		——	92,248	
Aug.	——	42,354		——	41,254		——	83,608	
Sept.	——	36,367		——	55,151		——	91,518	
Oct.	55,378	34,085		46,359	51,098		101,737	85,183	
Nov.	59,017	34,885		35,685	42,692		94,702	86,577	
Dec.	56,080	51,215		46,216	48,208		102,296	99,423	

(Rubber Association of America figures raised to 100%.)

LONDON

(In Wharves and Warehouses—Figures Include Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,232	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,739	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	20,896
June	22,517	69,408	71,597	51,050	51,115	5,318	25,063
July	25,346	71,065	71,515	49,937	52,073	4,258	
August	30,674	73,211	72,112	48,427	49,700	4,619	
September	35,504	72,175	70,977	54,523	44,011	5,453	
October	41,743	69,229	68,536	58,891	37,523	5,086	
November	45,550	70,786	68,548	60,074	33,593	3,869	
December	50,652	69,792	72,299	60,246	29,488	5,697	

United States Consumption of Gasoline

(Gallons)

MONTHS:	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	144,579,291	169,240,627	236,073,140	294,750,791	282,717,148	456,967,163	500,420,689	595,413,000	720,358,000
February	147,204,377	185,900,192	248,395,214	225,195,372	262,925,732	380,093,070	402,703,876	543,640,000	650,718,000
March	219,333,317	201,004,317	256,020,539	346,164,546	380,406,778	446,460,208	467,181,088	625,053,000	779,571,000
April	265,151,411	243,440,615	297,000,463	333,290,921	385,230,994	485,716,788	607,175,026	798,305,000	831,410,000
May	313,824,603	327,610,273	378,912,692	354,263,486	499,724,405	582,535,781	672,495,321	841,787,000	988,677,000
June	306,677,723	305,960,438	427,747,291	442,924,973	506,959,446	633,504,590	682,409,140	868,350,000	
July	353,589,555	296,242,260	434,878,617	457,758,078	566,099,329	674,019,467	789,666,590	963,071,000	
August	339,435,744	376,484,274	479,741,391	505,035,827	583,687,932	692,154,000	828,057,847	931,901,000	
September	284,685,213	367,633,742	450,888,670	438,083,634	507,924,207	655,797,616	718,068,623	848,867,000	
October	299,642,892	338,429,709	384,802,246	454,995,551	490,393,454	621,172,668	751,499,199	831,774,000	
November	245,278,844	284,620,809	366,567,344	350,548,481	471,616,103	538,308,809	698,359,199	757,744,000	
December	209,863,377	238,245,230	289,673,556	313,015,596	434,399,514	518,305,120	657,967,000	759,699,000	
TOTAL	3,129,266,347	3,434,812,486	4,250,696,163	4,516,027,256	5,372,085,042	6,685,035,280	7,770,238,000	9,365,604,000	

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	British Malaya[1]								Dutch East Indies[2]			French[3]		
	Gross Exports	*Imports*	*Net Exports*	*Ceylon*[2]	*India & Burma*[3]	*Sarawak*[4]	*Br. North Borneo*[4]	*Siam*[4]	*Java & Madura*	*Sumatra E. Coast*	*Other D.E.I.*	*Indo-China*	*Amazon Valley*[6]	*Total*[7]
1923	252,016	70,432	181,584	37,112	6,416	5,433	1,744	1,718	32,938	44,002	57,822	5,606	19,859	394,263
1924	259,760	107,419	152,341	37,351	7,697	6,485	1,892	2,962	42,446	52,499	80,347	6,688	23,164	413,872
1925	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271		25,307	
1925:														
Jan.	19,183	10,132	9,051	3,065	1,090	605	180	404	3,053	5,097	5,858	701	1,712	30,816
Feb.	21,622	10,071	11,551	2,207	1,121	469	148	283	3,490	5,139	8,569	586	2,977	36,540
Mar.	26,836	13,399	13,437	4,201	984	756	209	437	4,583	5,499	10,807	487	2,459	43,859
Apr.	22,414	11,751	10,663	3,250	684	483	164	384	4,121	4,663	8,536	482	1,585	35,015
May	26,667	12,979	13,688	2,600	585	717	189	489	3,624	4,455	12,006	599	2,588	41,540
June	27,894	14,706	13,188	3,502	831	1,046	195	430	4,187	4,667	10,644	833	1,653	41,176
July	24,809	16,192	8,617	4,487	680	955	218	533	4,719	5,244	10,516	411	1,142	37,522
Aug.	27,753	12,025	15,728	3,409	671	548	194	436	3,210	5,186	9,445	484	1,810	41,121
Sept.	29,425	12,913	16,512	4,758	745	766	218	533	3,364	4,913	10,628	764	2,140	45,341
Oct.	28,711	14,986	13,725	5,270	516	639	199	708	3,516	5,511	11,767	683	2,240	44,774
Nov.	31,648	14,904	16,744	3,980	1,044	838	186	411	4,657	6,349	11,958	991	2,620	49,778
Dec.	29,863	13,964	15,899	4,955	1,131	638	208	330	4,119	5,955	8,537	860	2,381	45,013
	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271	7,881	25,307	492,495
1926:														
Jan.	30,452	10,237	20,433	4,058	1,273	416	196	288	4,398	6,278	7,973	915	1,284	47,512
Feb.	30,440	8,306	22,134	4,941	725	488	141	253	4,475	5,676	6,695		2,759	
Mar.	35,012	14,800	20,212	5,708	1,113	792	232	418	4,855				2,126	
Apr.	23,727	10,565	13,162	3,484	590				4,523					
May	31,231	10,604	20,627	3,600										
June	30,600	11,800	18,800											
July														
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

(1) Malayan net exports cannot be taken as Malayan production since much of the imported rubber contains a high percentge of moisture and impurities which are eliminated before it is re-exported; the Malayan figures do not contain rubber exported as latex which on the basis of 3 pounds per gallon amounted to 99 tons in 1923, 957 tons in 1924 and 3,101 tons in 1925. (2) Ceylon Chamber of Commerce statistics until 1926. (3) Official statistics. (4) Figures for Sarawak, British North Borneo and Siam are imports from these territories into Singapore through which port practically their entire production moves. (5) Exports from "Other Dutch East Indies" are chiefly native rubber containing a high percentage of moisture and impurities for which no allowance has been made in the statistics; rubber shipped as latex has not been included and amounted to 6,355 tons in 1923, 2,735 tons in 1924 and 6,207 tons in 11 months of 1925. (6) Exports through Para, Manaos and Iquitos. (7) This total includes the net exports from British Malaya and all the figures shown for the other territories.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	United States	*United Kingdom*	*France* (abd)	*Germany*	*Canada* (ac)	*Japan* (ac)	*Italy*	*Russia* (ce)	*Australia* (cf)	*Belgium* (d)	*Netherlands*	*Sweden* (abcd)	*Norway* (abc)	*Denmark* (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	733	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	1,040	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	554	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	2,649	172	−3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,631	2,184	792	1,391	448	354
1924	317,747	−11,550	34,488	22,727	14,420	19,612	8,764	824	3,127	2,688	−807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825	12,743	11,412	7,088	4,217	2,930	875	1,690	701	440
1925:														
January	31,736	−284	2,147	4,303	1,432	797	552	333	192	331	109	164	64	16
February	23,717	−2,492	3,529	3,690	1,278	658	908	1,000	338	275	88	136	145	37
March	31,727	−3,396	3,924	2,784	2,349	689	1,463	1,083	357	373	56	183	77	71
April	31,376	−2,961	3,069	3,574	1,397	719	817	535	314	97	181	149	47	22
May	35,729	−8,650	3,223	3,834	1,532	863	1,060	1,999	385	228	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59	378	329	120	97	43	74
July	31,177	2,204	1,827	2,606	1,613	813	650	16	341	176	28	114	45	24
August	32,281	3,825	1,109	2,942	1,582	786	631	85	297	169	76	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234	429	283	136	102	54	20
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21	243	255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712	2,140	1,157	190	512	236	−12	219	55	52
December	38,819	6,158	3,370	713	2,248	1,187	815	1,533	431	178	−14	122	33	35
1926:														
January	40,320	6,439	3,170	703	2,188		760	332	358	76	154	123	46	51
February	31,435	3,114	3,513	1,113	1,685		1,041	643	432	275	89	171	82	94
March	40,316	8,907	4,790	1,342	2,079		1,037	832	469		227	213	31	55
Apr.	33,416	8,275	4,834	1,781				402			93	204	27	23
May	28,705	6,773						200			241	110		
June														
July														
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, Dutch East Indies and United Kingdom; monthly figures and total for 1925 are exports from Malaya, Ceylon, and Java only. –Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31 Average
1924																															
Jan.	—	26¼	26%	26¼	26%	—	26%	26½	26%	26¼	26%	—	—	25%	26¼	26	26%	25%	25%	—	25%	25¼	25½	24¾	—	—	—	25%	25%	25%
Feb.	25%	25¼	—	25¼	25%	—	25%	25%	25%	—	25%	25%	25%	25%	25%	25	—	25%	25%	25%	25%	25¼	25%	25%	25%	25%	25%	25%	25%	25%	25¼
Mar.	25%	—	24¾	24	24¼	24½	24½	24¼	23%	23¾	23¼	22%	—	—	—	22	21	—	22½	22	21¾	22%	22	22	21¾	21%	21%	22	22	23¼
Apr.	22½	22%	22	—	22%	21%	21½	21	21	21½	22¼	22%	22	22¼	22¼	22¼	22%	18	18½	18	18½	18	16%	23	23	23	18%	18%	22%	18%	19%
May	22%	21%	22	—	21%	19½	19½	19%	19%	19½	—	19%	—	20	20	19	18	18	18½	18	17%	18	18	19½	18%	18%	18%	18%	18%	18%	18%
June	—	18%	19%	19%	19%	—	19%	19%	19%	19%	19%	19%	—	18%	18%	18%	18%	18%	18%	18%	18%	18%	18%	18½	18%	18%	18%	23%	23%	23%	22%
July	18%	19%	—	19%	19%	—	19%	19%	19%	19%	19%	19%	19%	18%	18%	18%	21%	21%	21%	21%	21%	22%	22%	22%	22%	22%	23%	23%	26%	26%	26%
Aug.	23%	23%	—	24	25	25%	27¼	27%	27	—	26%	26¼	27%	27	26%	27%	27%	26%	27%	26%	26%	26%	26%	26%	26%	26%	26%	26%	28%	—	27%
Sept.	—	26¾	26¾	26%	26%	25%	—	26%	29½	—	27%	27%	27%	27%	27%	27%	27%	27%	27%	28	28	28	28	27%	27%	28¼	28%	28%	32%	34%	31%
Oct.	26%	29½	29½	29%	—	29%	29¼	29½	34%	34%	34%	34%	34¼	34	34	34	31½	31	31	31	32¼	32%	32%	32%	32%	32%	32%	32%	35%	33%
Nov.	34¾	—	34%	34%	34%	34¼	34%	34½	—	37%	37%	37%	37%	37%	37%	37%	37%	38	38%	39%	—	39%	36%	36%	35%	34%	34%	34%	39%	40%	37%
Dec.	35%	35%	36	36%	36%	37%	—	38	37%	37%	37%	37%	37%	37%	37%	37%	37%	38	38%	39%	—	39%	36%	36%	35%	36%	38%	—	—	—	—	—
1925																															
Jan.	—	39%	39%	—	39	39	39¼	38%	38%	38%	—	37%	36½	36%	35%	35%	35%	34%	34%	35	36%	35%	36%	36%	37%	35%	35%	35%	35%	35%	36%
Feb.	—	35%	34%	34½	34%	34½	35%	35%	35%	34%	35¼	—	35%	36%	36%	36%	36%	36%	36%	36%	36%	36%	37%	37%	37%	37%	37%	38%	—	42%	36
Mar.	—	38%	38%	38%	38%	38%	39%	39%	40%	40%	40%	39%	40%	40%	40%	40%	40%	41%	41%	41%	41%	41%	42%	43%	43%	43%	43%	43%	44%	42%	41
Apr.	41¼	41%	41%	41%	42%	42%	42%	43%	43%	—	59	57	59	60%	60%	60%	61%	63	63	63	61%	60%	61%	63	62%	63%	64%	64%	44%	44%	43%
May	45	45%	47%	46%	48%	48%	50%	52%	53%	53%	75¼	76%	74%	71%	71%	71%	72%	73%	75%	76%	79%	79%	83%	85%	85%	85%	89%	89%	89%	89%	82%
June	69½	72	74%	76½	75%	75%	74%	74%	74%	99%	106%	76%	74%	77%	110%	117	116%	118%	121	117%	117%	119	112%	112%	107%	96%	93%	93%	93%	89%	103%
July	81¼	81%	85%	—	88%	88%	90%	95%	94%	95%	106%	72%	81½	80%	77%	78%	80½	80%	82%	85%	82%	82½	82½	85%	85%	87%	87%	87%	90	88%	88%
Aug.	94½	—	95½	88%	85%	86%	86%	81%	79	—	72%	86%	92½	93%	93%	92%	92%	92%	94%	92	93%	93%	90	89	89%	91%	91%	91%	91½	100¼	98
Sept.	88½	87¼	85	81½	81%	97	97½	99	98½	99½	100¼	101¾	104½	105½	—	109	107	107	109%	110%	110½	110%	109	109	99%	101½	99¼	100¼	107	91¼	104%
Oct.	91¼	91½	92	—	94½	100	100½	—	99½	99½	100¼	101¾	104½	105½	—	101	98¼	90	94¼	99	101½	102	99½	99½	99%	99½	108¼	108¾	93	91¼	98½
Nov.	—	99¾	98¾	98½	98¾	100	—	109	109¼	106	105½	105½	—	101	98¼	90¼	93	86¾	86¾	88¼	88¼	90¼	88¾	88¾	88¾	88¾	108¼	—	91	—	—
Dec.	106¾	108½	107¾	107¾	108¾	—	108	109	109¼	106	105½	105½	—	101	98¼	90¼	93	86¾	86¾	88¼	88¼	90¼	88¾	88¾	88¾	88¾	108¼	—	91	91¼	98½
1926																															
Jan.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	79½
Feb.	67	67½	66¾	66¾	68	69	—	69	67	65	66	66	65½	65½	62	60½	61	61	61	59	59	59	56	55	56	56	51	51	60	59	62¾
Mar.	55	58	53	53½	53½	57½	—	56	55½	53	53	51¼	50½	49¼	47½	47½	47½	47½	47½	47½	47½	47½	47½	48½	48	48	48	48	49	48½	51¼
Apr.	59	—	59	59	59	58	56½	56½	53	49	49½	49	48½	47¾	47½	47½	47½	47½	47½	47½	47½	47½	47½	48½	48	48	48	48	49	—	47¾
May	48¼	50	50	50¼	49½	49¾	49½	49½	49½	49½	49	49	48½	47¾	47½	47½	47½	47½	47½	47½	47½	47½	47½	47½	46¾	46¾	46	46	45	43	47½
June	41½	42	41½	42	41½	—	41½	41½	42	43	42	43	41½	42	42	43	43	43	43	44	44	44	44	44	44	44	44	44	45	42	42½
July	42	42	42	—	—	41½	41½	41½	41½	41½	41½	—	41	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Aug.																															
Sept.																															
Oct.																															
Nov.																															
Dec.																															

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924						
January	293,824	283,983	9,841	30,785	29,038	1,747
February	343,460	331,388	12,072	32,974	31,295	1,679
March	357,045	341,851	15,194	36,505	34,466	2,040
April	346,405	331,957	14,448	38,037	36,104	1,933
May	286,324	271,033	15,291	35,408	33,655	1,753
June	225,079	214,322	10,757	29,135	28,185	950
July	244,544	235,925	8,619	26,448	25,341	1,107
August	255,232	249,796	5,436	28,714	27,834	880
September	263,528	256,940	6,588	32,015	30,663	1,351
October	260,881	254,524	6,357	32,533	31,263	1,270
November	204,343	198,381	5,962	27,956	26,875	1,081
December	182,099	174,899	7,200	27,596	25,906	1,690
Total	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925						
January	212,921	204,620	8,301	28,198	26,633	1,565
February	252,803	242,024	10,779	34,467	32,774	1,693
March	332,154	319,140	13,014	45,168	43,079	2,089
April	391,302	375,787	15,515	47,698	46,322	1,576
May	382,714	364,363	18,351	43,380	41,492	1,888
June	364,806	350,557	14,249	38,141	36,347	1,794
July	358,554	347,414	11,140	41,915	40,070	1,845
August	221,831	214,401	7,430	37,843	36,357	1,486
September	272,425	262,053	10,372	60,452	57,972	2,480
October	406,572	392,651	13,921	46,003	44,309	1,694
November	336,358	327,617	8,741	40,077	37,840	2,237
December	285,199	277,701	7,498	34,477	32,746	1,731
Total	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	283,263	272,011	11,252	32,637	29,659	2,978
February	334,529	318,634	15,895	40,816	37,533	3,283
March	398,042	379,769	18,273	51,635	47,788	3,847
April	402,574	382,631	19,943	53,268	50,272	2,996
May	394,781	371,595	23,186	51,374	48,082	3,292
June						
July						
August						
September						
October						
November						
December						

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	1921	1922	1923	1924	1925	1926
January	5,045	16,938	30,106	29,058	29,638	32,196
February	5,955	14,767	30,149	25,736	29,761	31,136
March	9,190	21,408	36,629	28,385	33,498	32,936
April	13,084	19,294	29,085	27,129	34,139	32,696
May	16,023	23,246	36,155	25,845	35,322	29,364
June	16,142	31,713	24,272	22,753	35,822	28,598
July	18,310	24,522	17,685	23,396	36,053	
August	23,649	29,361	20,359	28,962	35,909	
September	16,705	24,410	17,594	31,497	31,691	
October	16,814	26,881	21,321	31,520	29,047	
November	14,105	24,950	20,437	27,289	28,853	
December	15,482	25,070	21,902	27,199	28,748	
TOTALS	170,504	282,560	305,694	328,769	388,481	

Monthly statistics covering shipments of various classes of rubber goods from the United States may be secured free of charge from the Rubber Division, Bureau of Foreign & Domestic Commerce, Washington, D.C.

The Market Place

WHERE TO OBTAIN
Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical
1.

ACCELERATORS—X L O and Diphenyl Guanidine.
Dovan Chemical Corp.
30 Church St. New York

ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.
E. I. du Pont de Nemours & Co., Inc.
Dyestuffs Dept. Sales Div.
Wilmington, Del.

ACCELERATORS
Grasselerator 102
Grasselerator 552
Grasselerator 808
Grasselli Chemical Co.
Rubber Service Dept.
347 Madison Ave., New York

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.
Roessler & Hasslacher Chem. Co.
709 Sixth Ave. N. Y. City

ACCELERATORS—A19, A7, Thiocarbanilid.
The RUBBER SERVICE Laboratories Co.
611 Peoples Savings & Trust Bldg.
Akron Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.
Rare Metal Products Co.
Belleville, N. J.
Direct Factory Representation

ASBESTINE—Specially prepared for use in Rubber. Send for liberal working sample.
SOLE PRODUCERS
International Pulp Co.
41 Park Row, New York City

The
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Your Products Listed Here

reach buyers in rubber factories at a cost lower than is possible by any other method.

ARRANGE FOR YOUR LISTING TODAY!

BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.
National Standard Co.
Niles, Mich.

BOLTON BIAS CUTTER
Cuts cord or flat woven fabrics with equal ease and precision. In use all over the world.
Spadone Machine Co., Inc.
15 Park Row New York

CALENDERS—Embossing, for artificial leather, oil cloth etc.
Textile-Finishing Machinery Co.
83 Exchange Place, Providence, R. I.

CARBON BLACK—*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."
Binney & Smith Co.
41 East 42nd St. New York City

CARBON BLACK
Godfrey L. Cabot, Inc.
Manufacturers for forty years.
940 Old South Bldg., Boston, Mass.
612 Metropolitan Bldg., Akron, O.

CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.
J. M. Huber, Inc.
130 West 42nd St. New York

CARBON BLACK — *Black Goose Brand*—free from grit and impurities and imparts high tensile strength to the rubber compound.
Union Power Co., Inc.
310 United Bldg., Akron, Ohio. 607 Com'l. Nat'l. Bank Bldg., Shreveport, La. 25 West 43rd St., New York, N. Y.

CARBON BLACK or any other compounding material used by rubber manufacturers can be marketed at low cost by listing it in *The Market Place.*

CASES—Fibre construction, insure satisfactory shipping results. Send for sample.
Brooklyn Fibre Syndicate, Inc.
Decatur St. & Irving Ave.
Brooklyn, N. Y.

CATALPO — The universal and standard rubber pigment now being used in treads, solids, tubes, carcass frictions, etc.
Moore & Munger
33 Rector Street
New York City

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, July 16, 1926.

Since our last report the cotton market has developed increased activity. Following the Government report on July 2 to the effect that the planted acreage was the largest on record and that the yield was but slightly smaller than last year's large yield, the market declined about 40 points. Shortly after the holidays, however, this decline was made up with prices increasing from day to day until at the highest levels reached on the 9th. active new crop months were 130 points, or $6.50 a bale above the lowest levels that followed the publication of the Government report, and not far from 100 points or about $5.00 a bale above the prices ruling just before the report was issued.

This rather remarkable recovery in face of such an enormous acreage estimate and of rather recent reports of favorable crop progress has been due entirely to the discovery that insects, principally the Mexican flea or cotton hopper, have been spreading over the cotton belt from Georgia to and including Texas. At first many traders were disposed to regard the hopper scare as greatly exaggerated, but more recent information has convinced the most skeptical that the crop is confronting a real menace, as the hoppers have succeeded in preventing a healthy appearing crop from developing fruit.

After the recovery to the high mentioned above, the market began to sag on the first day of this week, largely as the result of light trading. Liquidation started in and buying orders were scarce while selling was scattered and in small rather than large blocks.

The next day, however, saw an excited advance due to the sudden appearance of heavy rains throughout Oklahoma. The whole list advanced about $3 a bale, closing about 55 points higher than the previous day. The balance of this week has shown an irregular movement. On Wednesday prices broke about $2 a bale at the opening but recovered in the afternoon and closed for a loss of 6 to a gain of 3 points. The same story was repeated the next day. The market was in turn active, nervous and irregular with closing about the same as on Wednesday. Yesterday after an early advance to 17.55 for December contracts, this position broke to 17.25 in late trading. It closed at that figure with the general market closing easy at net declines of 3 to 10 points. Closing prices were:

	High	Low	Close	Close July 2
Sept.	17.52	17.52	17.39@——	——
Oct.	17.55	17.25	17.25@17.29	16.19
Dec.	17.55	17.25	17.25@17.26	16.15
Jan.	17.56	17.26	17.26@17.28	15.08
Feb.	17.58	17.58	17.36@——	——
Mar.	17.75	17.46	17.46@——	16.28
May	17.90	17.58	17.58@17.60	——

Tire Fabrics

The demand for tire fabrics during the past few days has strengthened slightly, small orders being placed for several constructions and widths. Tire fabric dealers are awaiting the result of the recent cut in tire prices. As a result of the slackening in production, tire manufacturers have been requesting deferments on immediate delivery which fabric producers have not always been able to effect, but with the expected increase in tire consumption this obstacle will be removed. Quotations on tire fabrics are expected to lead to considerably more covering for the third quarter of the year. Prices have shown little change. Quotations follow:

CORD				
Combed Peeler	lb.	.45	@	.48
Carded Peeler		.41	@	.43
Combed Egyptian uppers	lb.	.58	@	60
Carded Egyptian uppers	lb.	.47	@	.50
SQUARE WOVEN				
17¼-ounce Egyptian uppers, combed	lb.	.60	@	—
17¼-ounce Egyptian uppers, carded	lb.	.48	@	.50
17¼-ounce Sakellarides, combed	lb.	.63	@	—
17¼-ounce Peeler, carded	lb.	.42	@	.44

Sheetings and Ducks

SHEETINGS—The market for sheetings has shown slightly more activity and prices have remained fairly steady. Sales have been chiefly for spot or nearby delivery. 40-inch 2.85 is quoted at 11c, 3.75 at 8¾c and 4.25 at 7¾c.

DUCKS—Business in the cotton duck market has been fairly satisfactory. An increased demand for spot delivery has decreased stocks and several contracts have been placed covering the next three months. Hose and belting duck is quoted at 32 and enameling duck at 33. Quotations follow:

SHEETINGS				
40-inch 2.50-yard	yd.	.12½	@	—
40-inch 2.85-yard	yd.	.11	@	—
40-inch 3.15-yard	yd.	.12¼	@	—
40-inch 3.60-yard	yd.	.09¾	@	—
40-inch 3.75-yard	yd.	.08¾	@	.09
40-inch 4.25-yard	yd.	.07⅞	@	.08
DUCKS				
Belting and Hose	lb.	.32	@	.33½
Enameling	lb.	.33	@	.38
Shoe Ducks	lb.	.37	@	.38
Single filling	lb.	.13½	@	.16½
Double filling	lb.	.17	@	.18

J. H. LANE & CO.

Tire Fabrics Cord Fabrics

Enameling Duck Drill Sheeting

Osnaburg and Special Constructions

250 W. 57 Street, NEW YORK 323 South Franklin St., CHICAGO

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ENGINEERS
Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery
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Akron, Ohio

CRUDE RUBBER
BROKERS
Henderson Brothers Co., Inc.
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Members Rubber Exchange of N. Y.

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The Rubber Age
225 Fourth Ave., New York

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Importers and Dealers
Members Rubber Exchange of N. Y. and Rubber Exchange Clearing House
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44 Beaver St., New York
Weekly Market Review on Request

FABRICS— Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.
H. Frank Jones
395 Broadway New York City

CHEMICALS — Accelerators
Trimene Base, Heptene, Monex, Crylene, Lithex, Thiocarbanilide, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.
Naugatuck Chemical Co.
1790 Broadway, New York.

CRUDE RUBBER
We Solicit Your Inquiries
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Offices in Akron, Chicago, Boston.

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.
J. H. Lane & Co.
250 West 57th St. New York City

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.
R. T. Vanderbilt Co.
50 East 42nd St. New York City

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Charles T. Wilson Co., Inc.
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FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.
New England Southern Mills
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TIRE BUILDING MACHINES
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DRY KILN—for drying crude rubber and chemicals—Hunter Process.
Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark, N. J.

FLUXITE — Liquid and Solid — A rubber softener and aging compound of great efficiency.
Damascus Mnfg. Corp.
E. 93rd. St. & Cassius Ave.,
CLEVELAND, OHIO

THE MARKET PLACE Section Continued on Second Page Following.

RUBBER MARKETS

Scrap Rubber

NEW YORK, July 17, 1926.

Since our last report demand for scrap has continued firm with reclaimers in the market for most grades. Stocks are still scarce with dealers showing no inclination to lower prices. Quotations follow:

Auto tire peelings		.01¾ @	.02
Standard White auto	ton	44.50 @	50.00
Mixed auto	ton	28.00 @	30.00
Bicycle tires	ton	20.00 @	22.00
Clean solid truck tires	ton	38.00 @	40.00
Boots and shoes		.01¼ @	.01⅜
Arctics, untrimmed		.01¼ @	.01⅜
Arctics, trimmed		.01½ @	.01⅝
Inner tubes, No. 1		.09 @	.09¼
Inner tubes, No. 2, compounded		.07 @	.07¼
Air Brake Hose	ton	24.00 @	26.00
Rubber hose	ton	18.00 @	20.00

Reclaimed Rubber

NEW YORK, July 17, 1926.

Reclaimers report a continuance of satisfactory conditions with their production at a high peak. Demand is active and business on a whole has been good. Prices are stationary, with no changes reported since our last issue. Today's quotations follow:

Friction (Uncured)

No. 1	lb.	.32 @	.35
No. 2	lb.	.25 @	.27

High Tensile Black

Super-Reclaim No. 1	lb.	.24 @	.25
" " No. 2	lb.	.18 @	.19

Shoe

Unwashed	lb.	.09¾ @	.10
Washed	lb.	.12½ @	.12¾

Tube

No. 1 (Floating)	lb.	.22 @	.23
No 2 (Compounded)	lb.	.17 @	.18

Tires

Black, unwashed	lb.	.10¼ @	.10½
Black, washed	lb.	.11½ @	.11¾
Black, selected tires	lb.	.11¾ @	.12
Dark Gray	lb.	.14½ @	.14⅝
Light Gray	lb.	.16½ @	.16¾
White	lb.	.18½ @	.19
Truck, Heavy Gravity	lb.	.10 @	.10½
" Light Gravity	lb.	.10½ @	.11

Miscellaneous

Mechanical Blends	lb.	.05 @	.09
Red, High Grade	lb.	.17½ @	.18

Crude Rubber

NEW YORK, July 17, 1926.

Extremely quiet conditions continued to feature the crude rubber market, during the past two weeks. Business has been limited to small factory buying of spot. The market has remained comparatively steady, due to any lack of speculative buying. The cut in tire prices has not as yet had any material effect as factory inventories are still believed to be high. Many are of the opinion that the price reductions had already been discounted, but with the increase of motoring during the next few weeks production may be speeded up. Increasing stocks of crude rubber makes the supply more plentiful than demand and until important consumer buyers are more in evidence the market is apt to lag. Because of the large stocks on hand nearby positions remain at a discount and buying interest is centered in future months.

There is some feeling that the British may force a break some time during the month just large enough to bring the average price for the restriction quarter below the required figure for free exportation of British rubber.

The stocks in London for the week ending July 3rd were 25,063 tons, an increase of 1,263 tons over the previous week.

The market was slightly unsettled on the 6th as a result of the price cut and prices were easier on both the exchange and outside though little interest was displayed. Spot was quoted at 42 but was merely nominal in the absence of bids.

Nearby prices were easier on the 7th, but distant positions continued unchanged. 155 lots were traded in on the Exchange. The outside market was extremely dull. Prices firmed slightly on the 8th without a corresponding firmer tone on the outside, but actual transactions were too few to confirm asking and bid prices. A slight improvement was noted in the outside market on the 9th with some light factory inquiry. Prices were unchanged with spot at 42 and less disposition to shade prices. Prices on the exchange advanced on an average of 20 to 30 points.

London stocks increased an even 1,000 tons during the week ended July 10, bringing the total to 26,063 tons, as against 22,283 last month, and 4,484 a year ago.

The market opened with extreme quietness on the 12th but picked up considerably on the 13th. A total of 360 contracts was traded in on the exchange but prices showed a general tendency to decline rather than advance. The outside market was quiet with spot down to 41½c. Activity fell off again on the 14th with easier prices on both the exchange and outside but there was no selling pressure to bring them down. A slight increase in factory interest was noticeable on the 15th and 16th resulting in increased activity and rising prices. The figures of the Rubber Association released on the 14th show the June imports of crude rubber at 30,107 tons with an estimated consumption of 28,500 tons. Closing Exchange prices are shown in the table at the bottom of this page.

JULY 16 OPEN MARKET PRICES

Plantations—

Ribbed Smoked Sheets			
Spot	.40 @	.41	
July	.40 @	.41	
Aug./Sept.	.41½ @	—	
Oct./Dec.	.42 @	—	
First Latex, crepe spot	.42 @	—	
Amber Crepe, No. 2, spot	.39 @	—	
" " No. 3	.38 @	—	
" " No. 4	.36½ @	—	
Brown Crepe, Rolled	.34 @	—	
" " Clean, thin	.38 @	—	
" " Specky	.36½ @	—	

Pontianac—

Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		

Paras—

Up-river Fine	.33½ @	—	
" Medium	.34 @	—	
" Coarse	.23 @	—	
Acre Bolivian, fine	.38 @	—	
Tapajos, fine	.35 @	—	
Islands, fine	.35 @	—	
Cut Beni Bolivian, fine	.39 @	.40	

Caucho Ball—

Upper, shipment	.24 @	—	

Centrals—

Corinto, scrap	.22 @	—	
Esmeraldo, sausage	.22 @	—	
Guayule, w and d	.33 @	.34	

Africans—

Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" " red	Nominal		
Kassai, Prime Red	Nominal		

Balata—

Block, Columbia	.60 @	—	
" Cuidad	.60 @	—	
Surinam, sheet	.73 @	—	

Gutta Percha—

Siak	.32 @	.33	
Red Macassar	3.00 @	3.50	

Chicle—

Mexican, Yucatan	.65 @	—	

LONDON MARKET

Standard Ribbed Smoked Sheets—	
Spot	20¼d
August	20½
September	20⅝
Oct./Dec.	20⅞
Jan./March	21¼

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—	
Spot	19¾d
Aug./Sept.	19¾
Oct./Dec.	20¼

Closing Prices on Rubber Exchange of New York, Inc.

JULY 6 to 16

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	SALES*
July 6	40.90	41.00	41.10	41.80	42.70	42.70	43.10	43.10	43.10	43.50	43.50	43.50	100
7	40.60	40.80	41.20	41.70	42.00	42.40	43.00	43.00	43.00	43.30	43.30	43.30	155
8	40.80	41.10	41.60	42.00	42.00	42.60	43.20	43.20	43.20	43.30	43.40	43.50	167
9	41.00	41.50	41.70	42.30	42.40	42.50	43.70	43.70	43.70	43.70	43.80	43.80	217
10	41.00	41.30	41.70	42.20	42.40	42.50	43.40	43.50	43.50	43.50	43.60	43.60	91
12	40.70	41.10	41.50	41.90	41.90	42.50	43.00	43.10	43.20	43.30	43.40	43.40	163
13	40.10	40.40	40.90	41.30	41.70	41.90	42.30	42.30	42.50	42.50	43.00	43.00	360
14	39.90	40.30	40.80	41.30	41.80	41.90	42.50	42.50	42.50	42.50	43.00	43.00	143
15	40.10	40.40	41.10	41.30	42.80	42.20	42.60	42.80	43.00	43.00	43.00	43.00	257
16	40.50	41.30	41.80	41.90	42.50	42.60	43.50	43.50	43.50	43.50	43.50	43.50	192

(*) In lots of 2½ tons each; totals are for old and new contracts.
(Prices are for new contracts)

The Market Place

3.

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"In Business Since 1888"
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MOLDS & CORES—for automobile tires; general machine work.

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"43 Years Serving the Industry Solely as Reclaimers"

MANDRELS--CIRCULAR
and Economy Calender Shells
Prompt Service—Let us quote you.
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"NU-GUM" RUBBER
Produced from No. 1 Floating Tubes. Absolutely pure — no oils —no compound added. *Specific Gravity*, .98.
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MICA — Water Ground and Water Floated — 160 Mesh —Absolutely Free from Grit. Akron Stocks, also Factory Shipments.

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THE MARKET PLACE Section Continued on Second Page Following.

Accelerators
Colors
Mineral Rubber
Compounding Materials

RUBBER CHEMICAL and COMPOUNDING MATERIAL MARKETS

Softeners
Vulcanizing Ingredients
Rubber Substitutes

NEW YORK, July 17, 1926—Considering the fact that tire dealers are still ordering cautiously and in small quantities, the condition of the market for rubber accelerators and compounding materials in general is quite satisfactory. In certain quarters conditions may be characterized as spotty but on the other hand, notably among manufacturers of carbon black, business has been picking up very nicely since the first week of July and the volume of shipments has increased steadily. As a whole the market is holding up as well as might be expected at this season of the year. Prices have changed slightly with a decrease in acetone, carbon tetrachloride and anti-oxidants reported. The only increase noted was for magnesia carbonate which is now quoted at .083/4 c. in barrels.

ACCELERATORS

Organic			
A-7	lb.	.65 @	.90
A-40	lb.	.65 @	.90
A-19	lb.	.70 @	.95
A-11	lb.	.70 @	.95
Aledhyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	1.05 @	1.07
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.05 @	1.08
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42
Grasselerator 102	lb.	.80 @	.82
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.25 @	1.50
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	3.25 @	—
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	— @	.65
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.25
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.26 @	28½
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	4.50 @	5.00
Vulcone	lb.	.75 @	.79
Z. 88	lb.	.75 @	1.00
Zimate	lb.	5.00 @	—
Inorganic			
Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.12 @	—
Magnesia, calcined, light	lb.	.12 @	20
heavy	lb.	.04½ @	—

COLORS

Blacks (See Compounding Materials)			
Blues			
Prussian	lb.	.32 @	.34
Ultramarine	lb.	.08 @	.35
Browns			
Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06
Greens			
Chrome, light	lb.	.31 @	.33
medium	lb.	.32 @	.35
dark	lb.	.35 @	.40
commercial	lb.	.08 @	.11
Chromium Oxide, bbl.	lb.	.30 @	.31
Reds			
Antimony crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
vermillion 15/17	lb.	.37½ @	—
golden, 15/17 F.S.	lb.	.16 @	—
pentasulphide, pure,	lb.	.33 @	.35
15/17 F.S.	lb.	.26 @	.30
Indian English	lb.	.11 @	.15
Oximony	lb.	.13¼ @	—
Para toner	lb.	.80 @	.90
Red oxide, reduced	lb.	.11 @	—
pure	lb.	.12 @	.14
Blue Ridge	lb.	.12 @	.14
Toluidine toner	lb.	1.80 @	2.10
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.40 @	1.45
Whites			
Albalith	lb.	.05⅝ @	.06⅛
Lithopone, Akcolith	lb.	.05⅝ @	.06
Lithopone, Azolith	lb.	.05⅝ @	.06⅛
Zinc Oxide—American Process XX red	lb.	.07½ @	.07¾
Kadox, black label, kegs	lb.	.10⅞ @	.11⅛
blue " " "		.09⅞ @	.10⅛
red " " "		.08⅞ @	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.06⅞ @	.07⅜
Zinc Oxide—French Process White seal	lb.	.12⅜ @	—
Green seal	lb.	.11⅜ @	—
Red seal	lb.	.10⅜ @	—
Yellows			
Chrome	lb.	.17½ @	.18
Ocher, French medium	lb.	.03¼ @	.03⅜
domestic	lb.	.01¾ @	.02½

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.13½ @	.17½
Are-O-Sel	ton	8.00 @	11.00
Asbestine	ton	16.00 @	18.50
Barium carbonate	lb.	.03½ @	—
Barium Dust	lb.	.05 @	.06
Barytes southern off-color, ton		12.00 @	18.00
Western prime white ton		23.00 @	—
imported	ton	27.00 @	36.00
Basofor	lb.	.04½ @	—
Blacks Arrow "Aerfloted"	lb.	.08 @	.12
Bone Black	lb.	.05½ @	.11
Carbon, compressed	lb.	.08½ @	.12½
" uncompressed	lb.	.08 @	.12
Drop Black	lb.	.07½ @	.14
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blanc fixe dry f.o.b. works	lb.	.04 @	.04½
Carrara filler	lb.	.01⅝ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	15.00 @	25.00
Aerflotel Suprex	ton	13.00 @	20.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Dixie	ton	20.00 @	35.00
Langford	ton	12.00 @	22.00
Mineral Flour, c. l. fob mine	ton	17.00 @	20.00
Seminole, c. l. fob mine	ton	16.00 @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.12 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Magnesia, carbonate	lb.	— @	.08¾
Mica, powdered	ton	90.00 @	100.
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	20.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
English cliffstone	cwt.	1.50 @	—
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	38.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids			
Muriatic, 20%	cwt.	.95 @	1.05
Nitric, 36 degrees	cwt.	5.00 @	5.25
Sulphuric, 60 degrees	ton	10.50 @	11.50
66 degrees	ton	15.00 @	16.00
Tartaric, crystals	lb.	.29 @	—
Alkalies			
Caustic soda, 76%	cwt.	3.76 @	3.91
Soda ash, 58% C.L.	cwt.	1.43 @	1.45⅛
Oils			
Castor, No. 3 bbls.	lb.	.12¾ @	—
Corn, crude, bbls.	lb.	.11¼ @	—
refined	lb.	.13 @	—
Cottonseed, crude		.10½ @	—
Cycline	gal.	.26 @	.34
Glycerine, C.P. drums	lb.	.23½ @	.24
Linseed, Raw C.L. bbl.	lb.	.11 @	—
Liquid Rubber	lb.	.12 @	—
Moldrite	lb.	.05 @	.06
Palm, Lagos	lb.	.08½ @	.08¾
Niger	lb.	.08⅛ @	.08¼
Peanut, domestic crude	lb.	.12½ @	—
Petrolatum, white	lb.	.11⅛ @	.11⅜
amber	lb.	.03⅞ @	.04
dark amber	lb.	.03⅞ @	.05¾
Pine, steam distilled	lb.	.60 @	.65
Rapeseed, refined	gal.	.84 @	.90
blown	gal.	1.00 @	—
Rosin, first rectified	gal.	.60 @	.62
second rectified	gal.	.65 @	.67
Soya Bean, crude		.13¼ @	.13½
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32
Resins and Pitches			
Pitch, Burgundy	lb.	.07 @	—
coal tar	gal.	.05½ @	.06
pine	bbl.	7.50 @	8.50
Rosin, grade K	bbl.	13.80 @	—
Tar Retort	bbl.	16.00 @	17.00
kiln burned	bbl.	15.00 @	16.00
Tackol	lb.	.09 @	.15
Solvents			
Alcohol denatured, No. 1 bbls.	gal.	.34 @	.47
Benzol, 90%	gal.	.30 @	—
pure		.30 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
tetrachloride	lb.	.07 @	—
Motor gasoline, steel bbls.	gal.	.23 @	—
Naptha, V. M. & P.	gal.	.20 @	.22
Turpentine, spirits	gal.	.86 @	.87
wood	gal.	.80 @	.84
Waxes			
Beeswax	lb.	.60 @	.62
Carnauba, No. 1	lb.	.50 @	.51
Ceresin, white	lb.	.09 @	.10
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
Paraffine White A.M.P.	lb.	.05¼ @	.05½
Yellow A.M.P.	lb.	.05¼ @	.05⅜

ANTI-OXIDANTS

Age-Rite	lb.	.85 @	.90
Antox	lb.	.88 @	—
VGB	lb.	.70 @	—

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.10 @	.17
Brown	lb.	.10 @	.15
Brown factice	lb.	.10 @	.16
White factice	lb.	.10½ @	.17½

VULCANIZING INGREDIENTS

Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.08½ @	—
Sulphur flour Superfine, bags	cwt.	2.20 @	2.75
" bbls.	cwt.	2.35 @	3.10
100% pure, refined, bags	cwt.	2.60 @	3.15
bbls.	cwt.	2.85 @	3.40

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With the Editor

A long felt need among rubber executives for timely and accurate reports on rubber and motor stock movements is filled by the new Financial Section added to THE RUBBER AGE beginning with this issue. This section, which will be found on pages 382 and 383, contains what is undoubtedly the most timely and comprehensive information on rubber and motor stocks available at this time.

Not only are current quotations given in the statistical table, but also the high and low for the past few years, the record high, par value, capitalization of the various companies listed, earnings for 1924 and 1925, dividend rate and the funded debt. In addition, the latest bond prices and dividends declared are given as well as numerous other items of a financial nature which will keep rubber executives fully posted on all latest developments in this branch of the rubber and automotive industries.

This new section, will, we believe, be also found of value to others than rubber factory executives for manufacturers and dealers in machinery and factory equipment, cotton and fabrics, crude and reclaimed rubber, chemicals and compounding materials will find much information in these pages which can be used to advantage.